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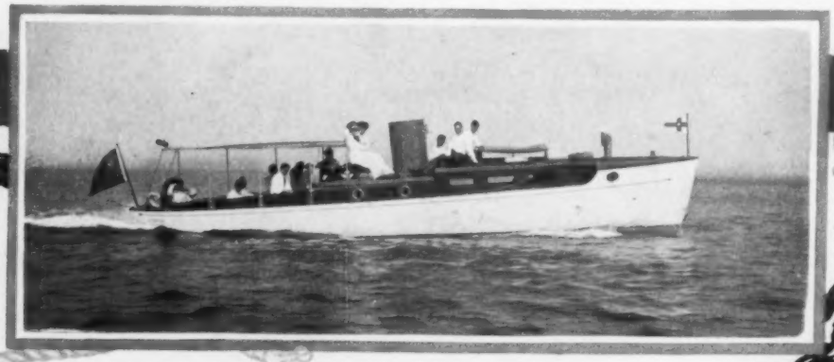

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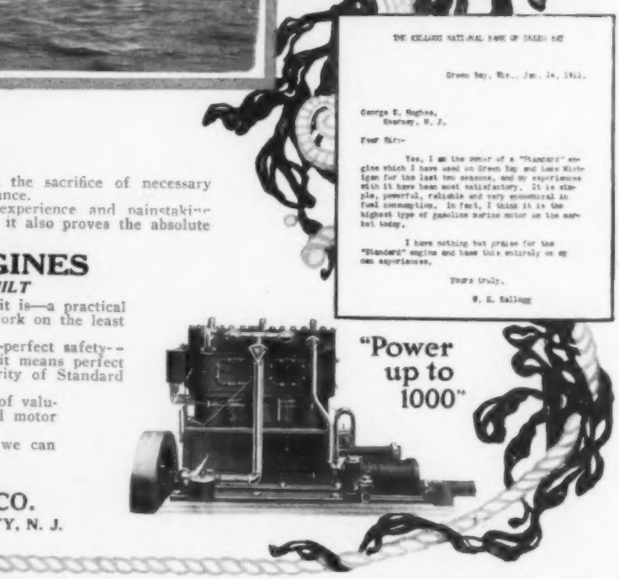

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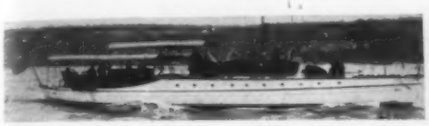

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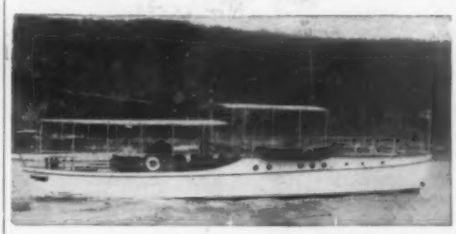

NO. 1928—FOR SALE OR CHARTER—64-foot twin screw motor yacht. One double stateroom, bathroom, 2 wide transoms in main cabin. Has cruised from Maine to Florida. Now proceeding South. For Plans, etc., apply Gielow & Orr, 52 Broadway, New York.

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NO. 2080—FOR SALE OR CHARTER—75-foot twin screw motor yacht. Speed 12 miles; large stateroom and six transoms. This type is preferred by many for Southern cruising on account of excellent ventilation afforded by glass windows. Full particulars from Gielow & Orr, 52 Broadway, New York.

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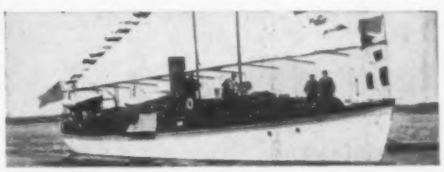

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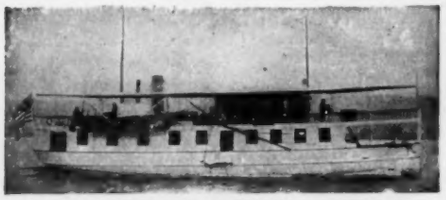
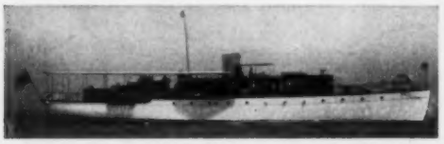
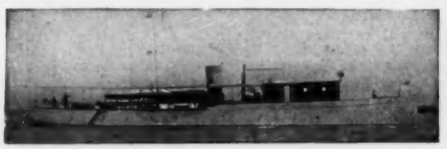


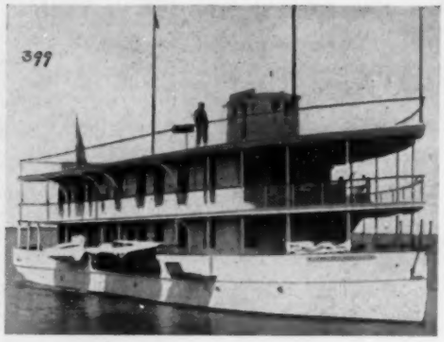
NO. 1837—FOR SALE AND CHARTER—This attractive power houseboat 87x76x23x4 ft., built 1906. Three large staterooms, three bath rooms. Saloon below sitting room on deck. Two 75-H.P. motors. Complete outfit. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.



NO. 7029—FOR SALE—Owner building larger yacht, one of the best yachts of her size; 110 ft. x 17 ft. 6 in., steel construction, two 6-cyl. 110-H.P. Standard reversible engines. Speed 12½ knots. Finished in mahogany and teak. Large deck space and all rooms of good size. Dining saloon, main saloon, four staterooms, bathroom, toilet, etc. Cutter, dinghy and launch. Electric lighting. Most complete equipment. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.



NO. 7676—110-ft. twin screw power yacht; two 150-H.P. motors. Speed 13 knots. Four staterooms, bath, etc. Very able, desirable craft. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.

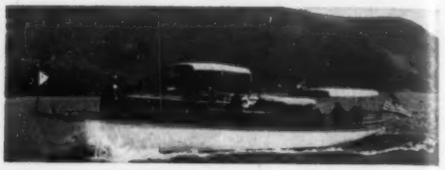


NO. 1817—Owner anxious to sell or charter houseboat now in Florida, 91x23.6x3 ft.; twin screw motors 30 H.P. each; has four staterooms, bath, sitting room and dining room for owner. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.

NO. 7074—FOR SALE OR CHARTER, modern motor yacht, 80x73x13, built by Lawley; 100-H.P. Standard Motor; 2 large double staterooms, main saloon, dining saloon on deck, complete equipment. Good condition. Speed, 13 knots. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.

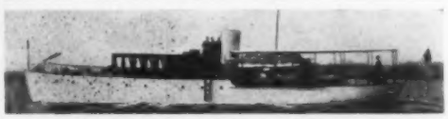
NO. 1808—FOR SALE—Power houseboat. Perfect condition. 123x115x17.8x3.6 ft. Built 1901. Five staterooms, two baths, large saloon. Twin screw, two 75-H.P. Standard motors. Electric light. Speed 9 knots. Unusual opportunity. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.

NO. 1856—Modern houseboat, 68x23x4 ft. Two 40-H.P. motors, speed 8 miles. Acetylene gas, three staterooms, each with two berths, two staterooms on upper deck, dining saloon, smoking room, bath room. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.



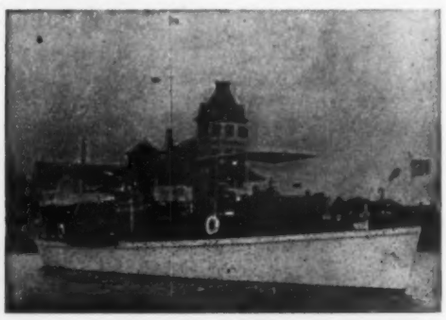
NO. 7334—FOR SALE OR CHARTER AT ATTRACTIVE PRICES — 65x13x3.9-ft. draught. Speed 11 to 12 miles. Two standard engines. Roomy and comfortable. Large after and bridge decks. Particularly well ventilated. Sleep six owner's party. Launch, dinghy, electric lights. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.

NO. 7674—FOR SALE OR CHARTER MODERN MOTOR YACHT—75-ft. twin screw raised deck cruiser; two 30-H.P., 4-cylinder engines. Two double staterooms, bath room and main cabin. Launch, electric lights, etc. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.



NO. 7871—Modern 85-ft. twin screw power yacht. Speed, 12 to 14 miles. Standard motors. Handsomely finished and furnished. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.

NO. 7725—FOR SALE—Able and roomy, twin screw, raised deck cruiser. Built 1909. 75x15x4-ft. draught. Two double staterooms, bath room, large main cabin with extension transoms, large galley; engine room and forecastle with officer's stateroom. Standard engines, electric lights. Solid mahogany interior. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.



NO. 7356—Desirable cruising power yacht for charter, 80x76x13x4-ft. draught. Two double staterooms, large saloon, with two berths, bath room, all conveniences; 6-cylinder 20th Century motor, new 1910; speed, 12 miles. Completely fitted. For further particulars apply to Tams, Lemoine & Crane, 52 Pine St., New York City.

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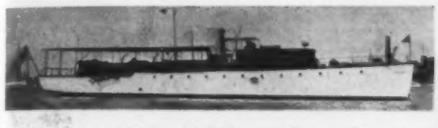
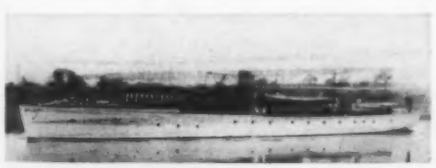


NO. 463—FOR SALE—110-ft. twin screw, steel, ocean cruising power yacht. Speed 13 to 14 miles; two 6-cyl. Standards. Four double staterooms, bath, and all conveniences. Must be seen to be appreciated. Cox & Stevens, 15 William Street, New York.

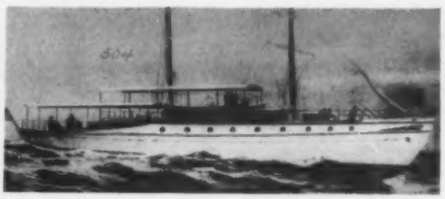
NO. 544—EXCEPTIONAL BARGAIN.—65x14 ft. twin-screw motor yacht. Very roomy and able craft. Speed 11½ miles; two 40 H. P. Globe motors. Full particulars from Cox & Stevens, 15 William Street, New York.

NO. 1482—BARGAIN—41x10-ft. raised deck cruiser; launched August, 1910. Speed 10½ miles; 24-H.P. Lamb motor. Double stateroom forward, saloon, electric lights, etc. Ideal cruiser. Cox & Stevens, 15 William Street, New York.

NO. 359—FOR SALE OR CHARTER—65x13-ft. twin screw motor yacht. Very roomy; double stateroom, two saloons, etc. Speed 12 miles; two Standard motors. Price attractive. Cox & Stevens, 15 William Street, New York.

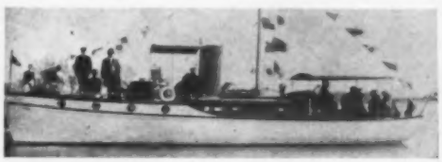


NO. 885—HANDSOME AND FAST TWIN-SCREW power yacht; 118x15.6x5 ft. Built 1910. Speed 16-18 miles; two 300 H. P. Craigs. Large accommodation. Handsomely finished and furnished. Undoubtedly best of type available. Cox & Stevens, 15 William Street, New York.



NO. 504—FOR SALE OR CHARTER—75x17 ft., twin-screw power yacht. Built 1908. Two staterooms, large saloon, bath, etc. Speed 10-12 miles; two 20th Century motors. In commission. Cox & Stevens, 15 William Street, New York.

NO. 579—FOR SALE.—Splendid 60-ft. power yacht. Built 1909. Speed, 11 miles. Excellent accommodations. Must be seen to be appreciated. Unusually complete. Full particulars, plan, etc., from Cox & Stevens, 15 William Street, New York.



NO. 1091—FOR SALE—50-ft. up-to-date gasolene cruiser; built 1910. Speed 11 to 13 miles; 6-cyl. Sterling motor. Double stateroom, 10-ft. saloon, electric lights, etc. Probably best of size available. Cox & Stevens, 15 William Street, New York.

NO. 448—Power houseboat, 64x17.4x3.6-ft. Lawley build. Speed 7½ knots; 25-35-H.P. Standard. Four staterooms, large saloon, bath, etc. Price low. Cox & Stevens, 15 William Street, New York.

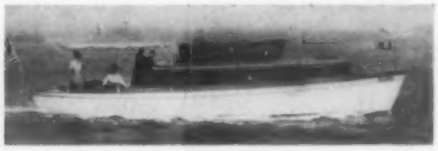
NO. 1428—FOR SALE.—Exceptionally fine day cruiser; 58x10.4 ft. Teak finish throughout. Speed 13 miles. Best construction. Price very low. Cox & Stevens, 15 William St., New York.

NO. 175—NOW IN FLORIDA—FOR SALE OR CHARTER—86-ft. comfortable and able motor yacht. Excellent condition. Speed 12 to 14 miles. Exceptional bargain. Owner building larger from our design. Cox & Stevens, 15 William Street, New York.

NO. 660—FOR SALE.—75x15 ft. twin-screw power yacht; built 1909. Speed, 12-13 miles; two 40-50 H. P. Standards. Two double staterooms, bath, etc. In first-class condition. Cox & Stevens, 15 William Street, New York.

NO. 238—FOR SALE AND CHARTER.—200-ft. seagoing steam yacht, American build; to close estate. Terms very reasonable. Cox & Stevens, 15 William Street, New York.

NO. 994—FOR SALE OR CHARTER—Handsome 83-ft. cruising power yacht. Launched August, 1910. Speed 13 to 15 miles; 100-H.P. Standard motor. Excellent accommodation. Price low. Cox & Stevens, 15 William Street, New York.



NO. 565—BARGAIN.—46x9 ft. cabin cruiser. Speed 10-11 miles; 20-25 H. P. 20th Century motor. All joiner work of mahogany. Excellent ventilation in cabin. First-class condition. Cox & Stevens, 15 William Street, New York.

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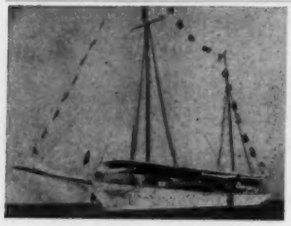
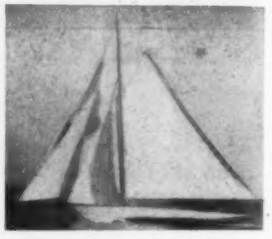


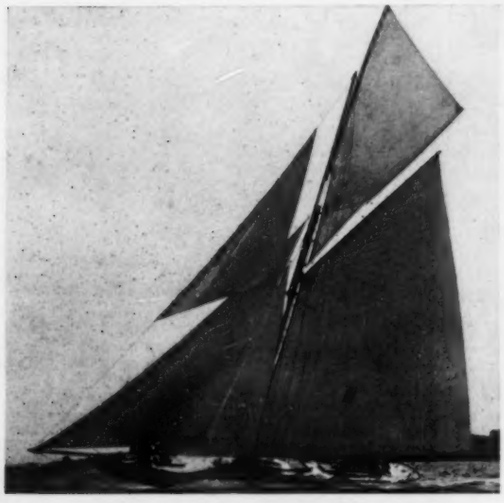
NO. 11267—FOR SALE—60-ft. w. l. Auxiliary Ketch. 80 o. a., 17 1-2 beam, 3 1-2 d. Built 1904. Owner's quarters berth 8 comfortably. 25 Standard; 4 tenders including launch. Cost $30,000. Offered by Estate, will be sold at low price. Now in Miami, Fla. Address Stanley M. Seaman, 220 Broadway, New York.

NO. 6685—LAWLEY CRUISER—60 o. a., 17 beam, 3 1-2 draught. 4 staterooms; bath. 25-H. P. Standard; speed 7 1-2 knots. Complete equipment. Economically maintained. Excellent seaboat. Seen near New York. Price reasonable. Address Stanley M. Seaman, 220 Broadway, New York.

NO. 6684—FOR SALE— Twin-Screw Cruiser, 60x10. 6x3. Stateroom and saloon berth 6. Two 30-H. P. engines installed 1908; speed 13 miles. Completely equipped. Inspectable this city. Will be sacrificed for immediate sale. Apply to Stanley M. Seaman, 220 Broadway, New York.

FOR SALE—No. 11269. Lawley Keel Sloop. 56 o. a., 35 w. l., 12 1-2 beam, 8 d. Owner's stateroom and saloon berth 5; 2 toilets. Mahogany finish. New sails. Completely equipped. Guaranteed perfect condition throughout. Owner having bought larger boat will sell very low. Address Stanley M. Seaman, 220 Broadway, New York.





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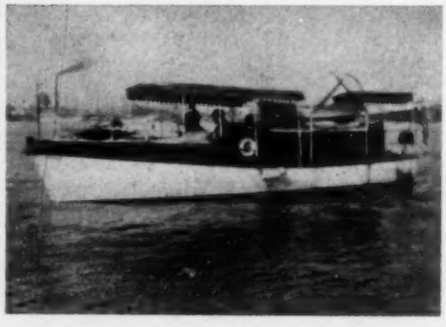

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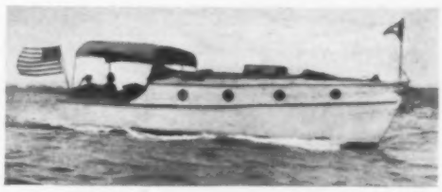

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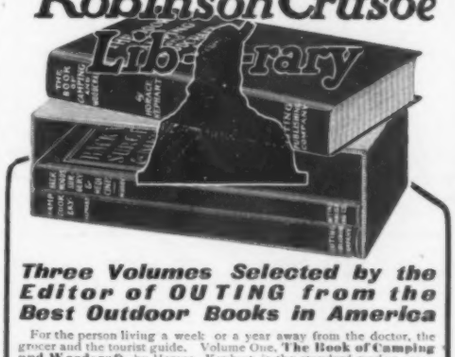

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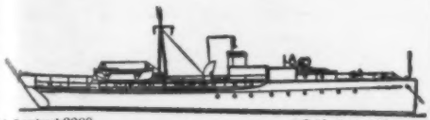

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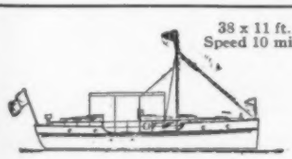

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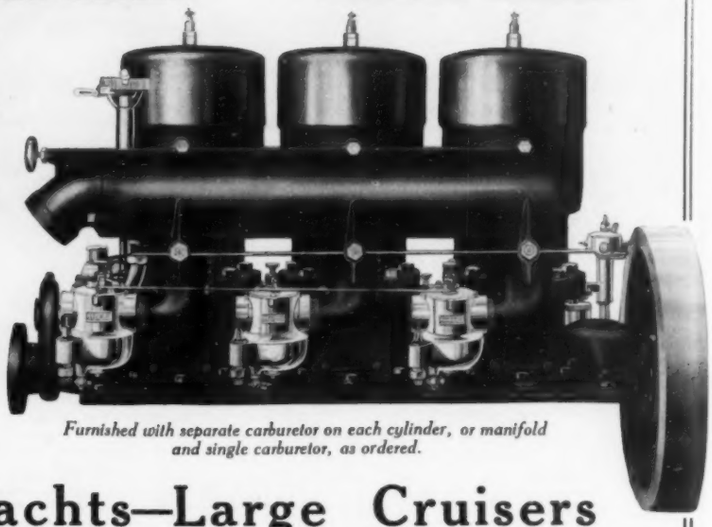

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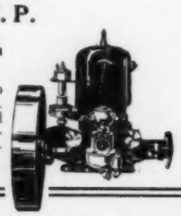

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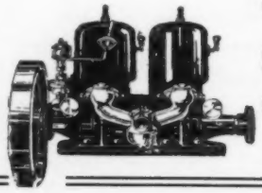

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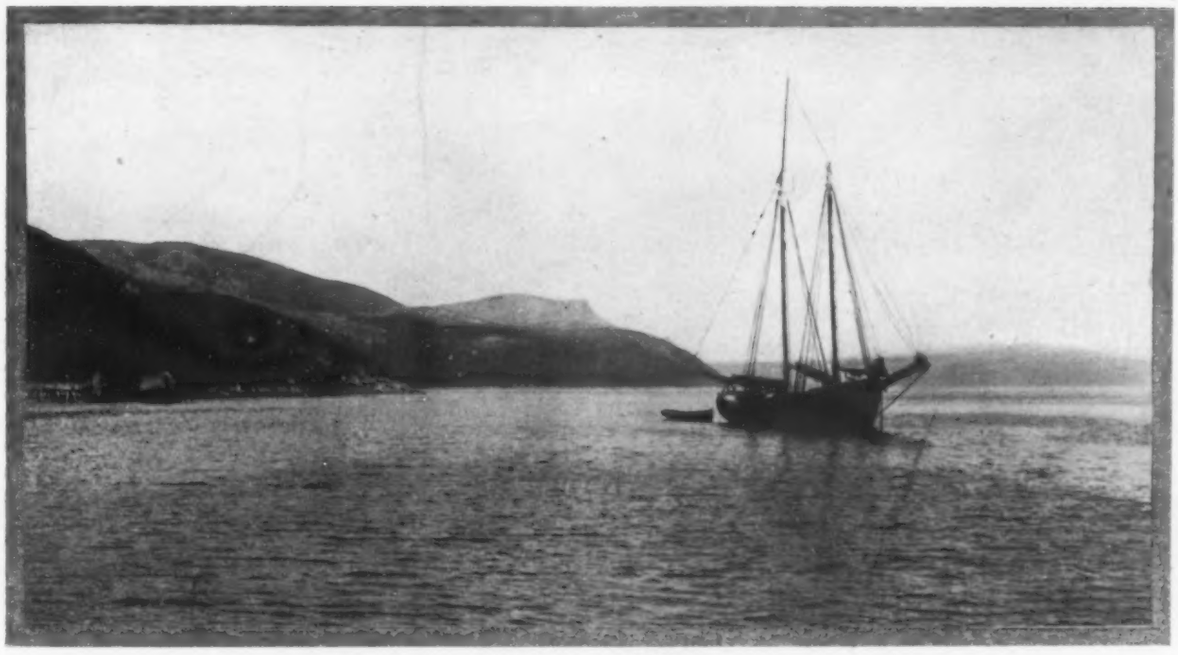

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Some Reminiscences of the Labrador

By J. T. ROWLAND.

Photographs by the Author

IN the summer of 1908 I had the good fortune to be with Dr. Grenfell on board his little hospital steamer Strathcona during one of the worst blows seen on the Labrador at that season in a number of years. My good fortune, as I view it, consisted not so much in the gratification of any selfish taste for adventure—for that was more than offset by a realization of the danger and suffering in the fishing fleet* which must result from the gale—but rather in the opportunity afforded to witness from the very firing line the campaign of rescue and relief into which the Doctor threw himself with his characteristic energy. In order to avoid any leaning toward sensationalism, which would be most distasteful to Dr. Grenfell in common with all brave men, who see nothing extraordinary in the courageous discharge of duty, I shall tell the story here as a plain narrative of events. To do so is, perhaps, after all, to pay the Doctor the supreme compliment of letting actions speak for themselves.

It was about 5 a. m. one Sunday in the early part of August that Strathcona fought her way into Indian Harbor (54° 26′ N. Lat.) in the teeth of a vicious Norther which tore the crests off the seas and deluged us fore and aft in a driving, blinding smother of spray. The night previous had been one of absolute calm with an overcast, heavy sky, so dark that we had been forced to anchor and wait for daylight to pass safely among the islands and reefs with which Grosswater Bay abounds. By half-past one in the morning the early light was near enough to warrant getting under way, and the calm still continued, but away to the North lay a steadily broadening band of clear sky around the horizon which, together with an extremely low glass, foretold vividly the coming blow.

THE CAPTAIN OF A LABRADOR SCHOONER IN HIS AUGUST COSTUME.

Across the Bay to Indian Harbor is a four hours' run, but the Doctor decided that Strathcona would have to get there ahead of the wind; and so she did to all necessity, though the connection seemed rather close. Scarcely had our anchors got a grip on bottom when a gust of increased strength swept down over the high land forming one side of the harbor, which, just by its grip on her bare spars and topsides, listed the old "Strath" down to port until the water poured over her rail. Nor was it any passing squall. The only change in weather that occurred for the next twelve hours was when it would "come to blow" harder still, each increase making the wind up to that

*It is estimated that between 1,000 and 2,000 schooners from Newfoundland are fishing in Labrador waters every summer.

HOSPITAL STEAMER STRATHCONA ENTERING INDIAN HARBOR, LABRADOR.

THE STRATHCONA AT ANCHOR IN INDIAN HARBOR IN JUNE.

time appear to have been merely a moderate zephyr.

So far as we were concerned the gale might howl itself sick, since Indian Harbor had not sufficient width for much of any sea to make up, and our anchors showed no inclination to drag; but one could not help thinking of the poor schooner-men, many of whom were, no doubt, having their vessels driven ashore under them at that very moment; for in the pursuit of fish they often find it necessary to anchor in the most unprotected places, among reefs which run a great distance to sea, and rock islands that a canoe could hardly find shelter behind. Life is literally a gamble with them: if it comes on to blow suddenly when a man has his vessel in such a roadbed he loses her and probably the lives of all hands into the bargain; but the fish are there and he must follow.

To venture out while the gale was at its height would, of course, have been folly—an impossibility, in fact, since all Labrador could not have broken out our anchors with the strain then on them; but one did not need to be a mind reader to foresee that once the backbone of the storm was broken there would be plenty of action on board.

In the course of the next twenty hours, the wind went completely around the compass. By daylight Monday it had got back to northwest once more, when the glass became suddenly active again, this time in an upward direction. All hands were turned out early and steam made in the boilers. At eight we had breakfast. While still employed in this, for our appetites had suffered nothing through the enforced rest, we were surprised by a sudden lull and the appearance of clear sky. Immediately orders were given to heave up anchor, and in a very few minutes Strathcona was scudding to the north'ard under full steam and what sail could be set without being blown off her spars. Apparently it had been blowing so hard that the sea outside, instead of rising to the great heights that a landsman would have anticipated, had on the contrary been kept beaten down flat by the very intensity of the wind. Such, I have since learned, is usually the case when a gale starts so suddenly and continues without abatement. At any rate I remember being quite surprised to find the sea as moderate as it was; and when the sun came out the wind, though still very fresh, only heightened the healthy excitement of our dash to help those in trouble.

Dr. Grenfell and his sailing master, Capt. Bartlett, were, of course, familiar enough with the coast to know where fishing vessels were likely to be found and where they would have fared worst. Both Tinker Harbor and Holton Harbor welcomed us with their quota of wrecks. (Labrador harbors are harbors only—there is no *town* in our sense of the word on the coast.) At the first place only six out of a fleet of 15 sail had survived, the rest lay in pitiful heaps of twisted wreckage along the rocky shore, with here and there a vessel minus her bottom perched in the attitude of a nesting gull on some little tide-water island. One schooner had driven completely over a reef and in so doing turned turtle, so that she was now floating bilge up. In spite of all this destruction not a life had been lost at Tinker's, all the people having managed somehow to get ashore in their stout trap-boats through the surf when they found that the larger vessels were beginning to drag anchor. The result was quite a camp of shipwrecked and destitute men and women (for the schooner-men take their women along as cooks) on the "beach." These were brought aboard the steamer and after the Doctor had held a hasty clinic for the injured we proceeded, our ship's complement swelled by some 20 refugees.

Soon after leaving Tinker Harbor, Captain Bartlett caught sight of a couple of vessels aground on the point of an island inshore from us. The "Strath," immediately ran up out of her course to look them over. (The fact that in so doing she was going into dangerous waters herself made no apparent difference.) Although the water-lines of both schooners showed at least a foot higher than they should if afloat the Doctor believed it to be possible to haul them off unscathed. Accordingly the steamer was cautiously backed down to within heaving distance

A CHEERFUL LABRADOR PROSPECT. SEA BREAKING ON ONE OF THE ISLANDS OFF THE COAST.

A SUMMER COTTAGE ON THE LABRADOR.

of one of them and a line sent aboard. Her skipper reported that she was hard and fast aground but entirely uninjured. Our engine-room telegraph clanged, the line taughtened to the breaking point as Strathcona forged resistlessly ahead,—a moment of breathless anxiety—then suddenly the grounded vessel started and slid off quietly into deep water. We all shouted: who could do otherwise at the sight of the poor fellows having restored to them unharmed their whole property in life, which, but for our opportune coming must have been irretrievably lost! The crew of the rescued schooner worked like mad to get sail on her, and then, with ensign mastheaded in token of victory, drove for the open sea and safety.

The same process was repeated successfully with the second one and our little steamer again headed 'down'* the coast. It was worth going all the way to Labrador to see the expression of the men's faces as they sailed past us.

Our next find, as I remember it, was a good-sized schooner ashore on Byron Strand, one of the few sand beaches of the coast. She was lying high and dry well above tide-water, and her people had already left her to make their way South as best they could in their small boats. A most pitiful sight she was, sails and gear all in good shape, and the hull unhurt, yet hopelessly buried in the sand. Her bones will doubtless rest there through many a long winter's night.

At Holton Harbor a larger proportion of vessels had managed to hang to their moorings, but by no means all. At every stop we added to the number of refugees on board Strathcona. They had no other way of getting home except by the vessels that had survived, and these in most places could not have begun to accommodate the crowd.

Whenever we entered a harbor the schooners still afloat would run up their colors by way of salute and as soon as the "Strath" let go her anchor there would be a raft of trap-boats alongside filled with fishermen anxious for news of some friend or relative farther South. Many also came on board to be treated for injuries. That was a busy time for Dr. Grenfell; between ministering to the sick, hauling off grounded vessels wherever possible, and inspecting wrecks in his official capacity as magistrate and Lloyd's agent, he had little chance for rest in the next few days, and did not appear to desire it.

Our most picturesque salving of a vessel occurred at King's Bay, a big, wide-mouthed harbor just around Cape Harrison in 54° 50′ N. Lat. Here, out of a fleet of possibly 80 sail, only some 13 dragged ashore. We succeeded in pulling one of the less heavily grounded off into deep water; then after the usual clinic the Doctor turned his attention to seeing if it were not possible to save more of the stranded vessels. One in particular attracted his attention, a big, old Gloucester-built schooner called the Pendragon. She was lying so as to be almost afloat at high water, but here there was a great difficulty in the fact that she had in some way managed to pass over a number of large boulders which now securely held her prisoner. Nevertheless the Doctor had an idea that with proper handling she might be got off unhurt. The Pendragon's skipper was inclined to look upon the scheme of refloating her as chimerical and refused to allow the attempt to be made, not wanting to forfeit his insurance, probably. Dr. Grenfell is not a man to be easily put aside, however. He believed that he could save the schooner, so he quietly bought her just where she lay and went to work.

First of all we needed good-sized spars for skids in order to improvise a sort of railway overtop of the boulders already mentioned. These the Doctor obtained by purchasing what was left of a small smack that had lost her entire bottom on striking the beach. Her fore and main booms were just the right size for our purpose, as we could not have handled anything larger. After considerable hard labor a

FISH STAGE IN MULLINS COVE.

MULLINS COVE, A LABRADOR HARBOR.

THE CREW OF A FISHING SCHOONER. ITINERANT PARSON IN THE FOREGROUND.

A TYPICAL NEWFOUNDLAND FISHING SCHOONER. ONE OF THOSE SAVED BY THE STRATHCONA

*"Down" is North in the Labrador vernacular.

fairly creditable slip-way was at last rigged under Capt. Bartlett's direction, and we had only to wait for high tide to make the experiment. Meanwhile Pendragon was lightened in every possible way, especially by throwing overboard most of the salt which she carried in bulk for "salting down" the catch of fish. As this had first to be lighted up out of the hold its disposal involved no small amount of work.

High tide arrived at 3:30 p.m. The "Strath" backed down as near to the Pendragon as her draught would permit and hove us a line to which was made fast the end of a heavy steel cable. After securing the latter temporarily we rigged, under Dr. Grenfell's orders, a bridle between the two mastheads. The end of the steel cable was next carried aloft and made fast to this bridle. It thus became apparent that the Doctor's plan was to pull the schooner over on her beam ends and then drag her bodily off shore on her side, over the skids. True, she would draw less water in this position than upright, but considering that the vessel in question was an 80-ton schooner it is putting it rather weakly to say that such methods were heroic.

However, the next development had a still more daring aspect. Instead of taking a steady pull the Strathcona started offshore at full speed, paying out the cable as she went. Her end of it had been well secured on her afterdeck, so that when she reached its full scope the cable would, of course, fetch up with a tremendous jerk, which was to be measured by the strength of the steamer's propelling machinery plus the momentum that she had attained.

The idea of having an 80-foot steamer take a run and yank a good-sized schooner off the rocks by her mast-heads was something altogether new in my sea-going experience; and I must confess that I awaited results upon the Pendragon's quarter-deck with a feeling of anxiety that was not entirely for the safety of the vessel. Dr. Grenfell did not, however, appear disturbed, so I could not help believing that somehow or other the thing would work.

Suddenly Strathcona's whistle blew; that was a signal that she had reached the end of the cable. A moment of keen suspense, and we saw some 200 yards of steel cable cut out of the water and leap, vibrating, to a line representing the shortest distance between our mastheads and the steamer's stern. Over we went, farther and farther, until poor old Pendragon lay hard on her beam ends. Then came a series of bumping leaps, a hitch, a final successful yank—and we were afloat. . . . The whole harbor cheered!

Dr. Grenfell soon after resold the Pendragon to a fishing skipper (whose own vessel had been lost in the gale) for just what she had cost him when aground. Apparently his only purpose in the venture had been to prevent the schooner, which represented quite a little capital, as capital goes in Newfoundland, from becoming an economic loss to the community.

We returned to Indian Harbor with 60 shipwrecked people on board the Strathcona. These were housed and fed at the hospital there—the most northerly which the Doctor has yet established—until they could be called for by a steamer sent out from St. John's.

The Log of the Adventuress

A WINTER CRUISE TO THE WEST INDIES IN A 53-FOOT AUXILIARY SCHOONER.

PART I—FROM KEY WEST TO CIENFUEGOS, CUBA.

By E. B. GREEN, JR.

DRAWBRIDGE TO THE FORT AT CIENFUEGOS.

IT was November 15th and a mighty cold day, when we finally sailed out of Marblehead Harbor bound for the West Indies, warmer weather, trade winds and all the other things, the very names of which bring up visions of the tropics and contain the lure of summer seas and a different climate. Our craft was the Adventuress, owned by Mr. S. A. Moot, of the Corinthian Yacht Club, a staunch little auxiliary schooner yacht, built after the model of a Gloucester fisherman and with a 25-H.P. Standard motor tucked away below to insure her making harbor in case of a calm. The vessel's name had been the Olivette, and as a matter of fact, this name was not formally changed to Adventuress until our arrival at Key West, some weeks later.

She was as staunch and able a craft for the long six-months cruise we had planned as could be found and, in fact, when we once had occasion to remove a plank one wondered why they bothered with planks at all, as there was hardly any space between the ribs to require covering. She was 65 feet long on deck, 53 feet on the water, with a beam of 14 feet and a draft of 8 feet. She was capable of going anywhere and keeping the sea in any weather.

Our party aft consisted of the owner, Mr. L. R. Bissell, and the author of this narrative of the cruise, while forward there was a down-East skipper, Captain Everett Haskell, two men, and a steward.

Many evenings had been spent during the early fall, going over the charts, and it was found so easy to make long sails in this manner, conquer head currents with the engine, and make many early starts, that we proposed to sail down the coast to Cuba, then to play among the Windward Islands and finally to cruise along the coast of South America to Panama, thence to Jamaica, reaching home in the early spring. This, however, all proved to be not only a dream but a paper story.

We stopped at New Haven on the way down and took in the Yale-Harvard game, as we were all good Harvard men, and made our real start from New York early on the morning of December 1st. It was then very cold, and it was necessary to wear heavy overcoats and mittens.

I shall only attempt to describe briefly our route down the coast as it was a long and rather slow run. We reached the mouth of the Delaware River the evening of the day we started, and worked our way up to the Delaware and Chesapeake canal. That night a thin film of ice formed over the canal and we had to wait for a tug to break it out, for the cracked pieces were as sharp as glass. Late the next evening, we reached the upper

waters of Chesapeake Bay about fifty miles north of Baltimore. Here we struck a blinding blizzard and ran aground on a mud hummock, but got off that night with the tide. In the morning we had to shovel off the decks, which were covered with about 3 feet of snow and chop away the ice which had formed in thick layers on the bow. We made our way down the Chesapeake to Norfolk, arriving there on the 9th and started up the river to the Dismal Swamp Canal. It is very hard to navigate this with a draft of 8 feet. Many of the buoys were out of place, and we ran aground several times. This necessitated warping her off with an anchor, and I remember one time in particular when the sailor was rowing out in our little 8-foot tender carrying a 200-pound anchor lashed over the stern, that suddenly the boat and anchor disappeared and the sailor was left sputtering in the cold water.

On getting out of the canal we went down Pamlico Sound, up the Neuce River, and then down the new canal which leads to Morehead City. Here we stayed a week with the weather cold, often making a start and then turning back again after striking a head wind.

Our next stop was Charleston, where we put on our straw hats again. Then we went under power all the way to Savannah in a calm, which was most unusual at this season of the year. Our next stop was Jacksonville, where we were hauled out and had our bottom painted. When we were ready to sail again, the captain kept finding excuses for not making a start. He was a fine old deep-sea captain, with the strength of an ox, and he would never think of using a tackle to lift aboard a 250-lb. anchor, but he had always sailed large ships, and could not get used to a small vessel and having the rail under water.

We finally got away and the passage to Jacksonville, a distance of 360 miles, was made in the excellent time of 3 days and 2 nights, but it was quite rough, and Bissell didn't come down to meals, but munched crackers in his bunk or in the lee of the boats on deck, so that when we reached Miami, his vest hung on him as if it had belonged to some one else twice his size.

The morning after our arrival at Miami, the captain told Mr. Moot he must have another sailor, and wanted this and that changed, or he would leave, so Mr. Moot reluctantly parted with him and Captain Smith Carlson was engaged.

THE ADVENTURESS.

We sailed for Key West two weeks later, the passage being a rough one, for we had struck the trades, which blow across or against the Gulf Stream causing short, choppy seas. On this passage we broke our fore boom.

A few days were spent in Key West, making repairs and we witnessed McCurdy, the aviator, make his start on his attempted flight to Havana.

ALL HANDS GETTING UP THE HOOK.

On February 2nd we made an early start, bound for Havana. We ran under power down the beautiful bay dotted here and there with small keys. It is a run of ninety miles across the Gulf Stream, which here flows very near the American shore. It was not long before we were able to make the Stream out ahead, for there is a strong contrast between the deep blue water of the Stream and the still water on either side. The Stream also throws up a white foam line along its edge, which gives one some idea of its swiftness at this point. The water now became a deep blue, and the foam at the bow looked like the suds in a tub of bluing water.

During the morning a light breeze sprang up from the N.E., and this quickly ruffled up the Stream. Land was sighted from aloft just before sundown, and it was not long before the light on Morro Castle was visible from the deck. We ran into the harbor, passing Morro Castle on one side and the city on the other. The water front was brilliantly lighted and teamed with life. A curious smell was wafted out to us from the shore, which reminded me of a joss stick. We anchored near the wreck of the Maine (over which they were working night and day) just as the 9 o'clock curfew gun boomed out from the castle.

We stayed here eight days taking in the sights of the interesting old city. Supplies we found quite reasonable, but it is necessary to go to one of the large public markets to buy them, and then you have to put them in a cab and take them to the wharf. The ice has to be procured in the same manner. Gasolene sells for fifty cents a gallon, unless you buy four thousand gallons, in which event the price is forty-three cents.

February 11th, at 6 a.m., we again set sail, bound for Kingston, Jamaica. The weather was hot and calm, though toward noon the light trade wind sprang up. All on board, excepting the steward were assigned to regular watches, and prepared for the night's sail. It was calm most of the night, but the currents were running fast as could be seen by the ripples on the water. We were some miles off shore when day dawned, but could plainly make out the beautiful mountains of Pinar del Rio in the distance. During the day, we again had a light trade wind. Our log had only registered 163 miles from Havana, but we were well off the Coloradoes Reef. The mountains had faded away, and a low shore line had taken their place.

About 4 o'clock in the afternoon the lighthouse on Cape San Antonio was picked up, and also a tall wireless pole. About this time the wind dropped, just as we got into the current of the Gulf Stream, and the motor was started. There were trolling lines over the stern and Bissell was fishing with a tarpon rod. Moot hauled in a 6-pound Spanish mackerel and then Bissell, the most enthusiastic fisherman in the party, hooked a 25-pound barracouta, which he played for a considerable time, as he was only able to reel in his line when the fish ran up on him. But after a hard fight, he got him alongside and landed him. He followed this by another catch, this time a little smaller one.

PLAYING THE BIG BARRACOUTA.

At sundown we were off the light, bucking the current. As the sun went down a full moon came up. Our course lay south across Corrientes Bay, and about 11 we came to anchor under the lee of Cape Corrientes. It was a beautiful clear night, and we ran close up to the white sand beach before letting go the hook. The bottom was clearly visible, with white sand patches, rocks, and sea growth in which we could see our anchor, but the lead line showed 5 fathoms.

We lay three days in this perfect anchorage, waiting for a favorable chance to round Cape Corrientes, as a heavy sea was running outside. The first morning we all got lines out and began to fish over the side. Fish of all kinds, some of them big blue fellows could be seen swimming about in the water. At first a white rag was used for bait, as this is the customary lure. They would follow this, but would not bite, and after awhile we all tried different kinds of bait without result, except that one of the sailors caught a shovel-nosed shark. We shot him twice with a forty-five revolver, once in the head, so as to get the hook out, but when the fish was thrown back again, he came to life and swam away. Bissell trolled a good deal in the launch, and kept the table well supplied with barracouta, bonita, red snapper, and Spanish mackerel.

This end of Cuba is practically uninhabited. It has a narrow fringe of sand beach, behind which runs a high coral wall, sometimes jutting out into the water, and often hidden by trees. A scrubby growth covers the mainland, and species of prickly cactus make the walking hard.

On the fourth morning we got under way with a reefed mainsail and soon ran into a heavy sea from the eastward on rounding the cape. We had a dead beat to windward and the motor was used to drive her into it. By sundown we were off Cape Frances, a distance of 35 miles. We had planned to stay outside until we reached the Isle of Pines. This, however, was out of the question, because the wind and sea were steadily increasing, the weather was very threatening, and we did not want to take the risk of getting blown off shore. Also, one of the water tanks had emptied itself into the bilge. On the other hand we had only a general chart of the shallow waters behind the keys. We changed our course and followed the shore line after rounding Cape Frances, using the

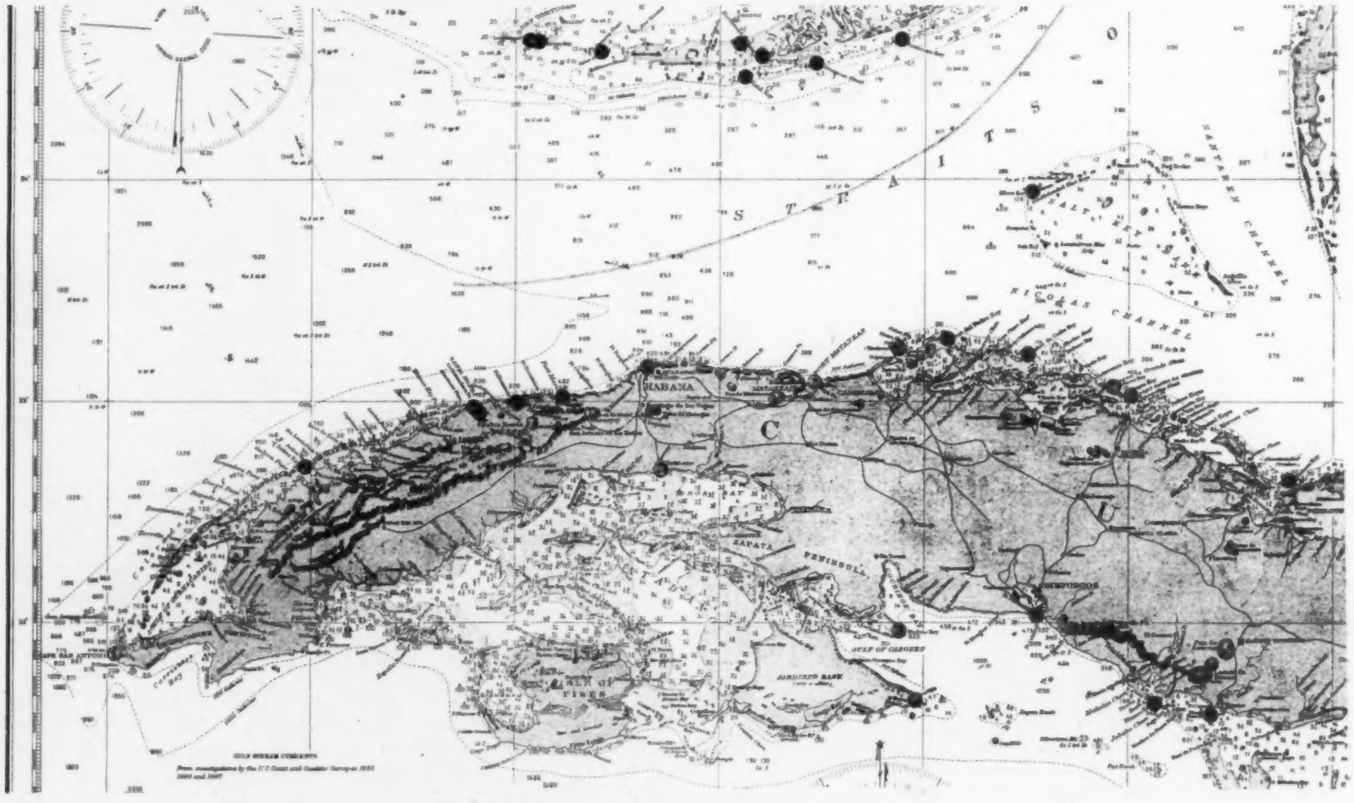


CHART OF WEST END OF CUBA AND THE ISLE OF PINES.

FISHING OVER THE SIDE AT CAPE CORRIENTES.

lead line continuously. About 10 o'clock that night we were not far off shore in 2 fathoms of water, so we let go our anchor, to wait for daylight.

The bottom was hard, yet we dared not give her much cable. It was rough and the water in the bilge swashed back and forth, soaking everything, and about 1 o'clock a solid sea swept in the starboard port holes. We managed to hang on all night, however. When we started to heave in the anchor the next morning we found that the windlass had been broken and as we got the anchor aboard with a tackle, we found that one of the flukes had been straightened out with the strain. We finally got under way about 10. The channel from here into Cortez Bay is very narrow and shallow, and as the chart was inadequate we had to depend entirely upon the lead line. For some time we got less than 2 fathoms and this made things very interesting with a vessel that drew 8 feet of water. We passed near the wreck of a tramp steamer that had been broken in two.

About 4 p.m. we anchored in Cortez Bay in smooth water and put a boat ashore to get water, as ours was all but gone. We saw here the remains of a large sugar mill which had been destroyed in the hurricane of the previous October. We found we could only get water by driving 3 miles for it, and then we had no way of getting it out aboard. So we decided to go on without it, and the allowance of water was cut down. We remained here all night, everyone being glad of a rest.

The next morning we got under way early, bound for Coloma. The water inside the Isle of Pines is all very shallow, and as we carried no chart of this harbor, and the general chart is very vague, we were on the lookout for trouble. As the village came into view, the water grew shallower, until we were finally sailing in 10 feet with a mud bottom. Here we met a Cuban fisherman; he told one of the sailors, who spoke Spanish, that he would show us the way in, and that there was plenty of water. So we followed him until we stuck in the mud about 4 miles from the village. This happened about noon and soon afterwards we made up a party with the captain, and one of the sailors, to go ashore, towing our dory with the launch.

Coloma was a village of thatched roofs, and one large abandoned sugar factory with an old Spanish tiled roof, which had been occupied by the United States troops. We found two stores here but were not able to buy meat though we got a few eggs and some bread. We had to carry our water 3 miles from a small river, and take it aboard in a keg which had been used for rum. One of the natives volunteered to make a forging to repair our windlass. He had an old U.S. portable army forge in front of his hut, and was able to accomplish his task just before darkness overtook him. Then the whole village, naked babies and all, came down to the waterfront to see us off.

When daylight came next morning we hauled the vessel around easily with one anchor, and started under the engine and lower sails. But after sailing a quarter of a mile she began to kick up the mud on the bottom, and then commenced to drag. So we hoisted the topsails, and changed our course more off shore. This helped for awhile, and we ran perhaps a half mile in this way, kicking up the mud, when we began to stick again. A puff of wind heeled us over and when this left us, we stopped in 5½ feet of water, with the yacht drawing 8 feet. There was even less water ahead, so that the only thing to be done was to swing her around.

This we tried to do by heaving home on the anchors. All that day and the next we kept at it. Sometimes she would move a quarter of a point, and sometimes not, but never more than that. On the third day we got a lighter from Coloma, and took all the stuff we could out to lighten her. Just after we had done this, and as the sun was going down, a strong norther set in, jibed her mainsail over and we got her around. This was just a pure piece of luck, for this wind is very exceptional here. Then by the aid of the anchors we moved her a short distance, but darkness came on and we had to remain here that night.

With the same puffy norther blowing the next morning, and her topsails set, we drove her through 2 miles of mud in only 5½ feet of water. To do this we had to keep her deck under water all the time. About 3 o'clock we got clear, set sail and started down Batabano Bay. When night came on we anchored again, as the water is not over 3 fathoms deep anywhere across this great shallow bay.

We set sail the next morning for Rice Channel and Laguna Key, letting go our hook off this key in the early afternoon. A fisherman lay at anchor nearby and volunteered to pilot us through the channel. He and all of his crew were Portuguese, and his little craft was as clean as a Dutch kitchen. He gave us some fresh crawfish, and a whole mess of other fish. He also advised our captain to go a hundred miles out of his course to get a pilot to take us through the channel inside of Jardinas bank. This advice, however, was not followed, and the next morning we started out across Batabano Bay.

This bay is very beautiful, being dotted here and there with small keys, with the mountains of the Isle of Pines in the distance. The water is a light green, due to the white sand bottom, and all the coloring is in very light tints. At sundown we anchored about 4 miles to the west of Rabihorcado Key in less than 2 fathoms of water. We took the boat and landed on the key

(Continued on page 407)

AT ANCHOR AT CIENFUEGOS.

Handling Ground Tackle

THE PROPER HANDLING OF ANCHORS AND CABLES ONE OF THE MOST IMPORTANT ITEMS FOR INSURING THE SAFETY OF THE VESSEL, AND A TEST OF ONE'S SEAMANSHIP. THE NECESSITY FOR A GOOD EQUIPMENT.

By HERBERT L. STONE.

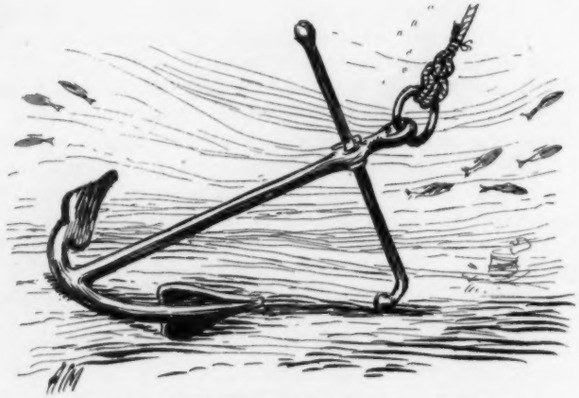
A MAN'S ability as a seaman is in no way more apparent than in coming to anchor or getting under way, and in the manner in which he handles his ground tackle. Many boat owners who are good sailors so far as handling their craft and steering a course goes, are more or less deficient in the matter of coming to anchor and getting under way, a fact that is due, probably, to lack of experience in handling ground tackle under varying conditions, their boats riding to a permanent mooring most of the time, the use of an anchor being confined to week-end cruises in protected harbors. Especially is this so with power-boat sailors, the nautical experience of many of them having been confined to two or three seasons, where the opportunities to observe and learn have not always been present.

I remember, a few years ago, seeing an open power boat of some 26 feet in length try to come up to a club float in the face of a severe squall. When within a couple hundred feet or so of the float the engine inconsiderately stopped, and the boat was blown rapidly through the yacht anchorage with every prospect of doing considerable damage before she fetched up. The crew hastily got out an anchor and coil of rope from some inaccessible locker, and in the haste to get it overboard, let it go from the stern. The cable of course was foul, several bights, being crossed. The consequence was that the anchor did not reach bottom. Down through the fleet the boat was blown, carroming from the sides of several anchored yachts until, finally, the crew aboard of an anchored boat near which she drifted, threw a line aboard, rounding her up under the stern, where she rode out the squall. It was a very unseamanlike piece of business, and if the truth were known the crew of the power boat must have felt very cheap, especially as it all happened within view of a large rocking chair fleet. With proper attention given to the care of the ground tackle, and a little experience in its use, such a thing could never have happened.

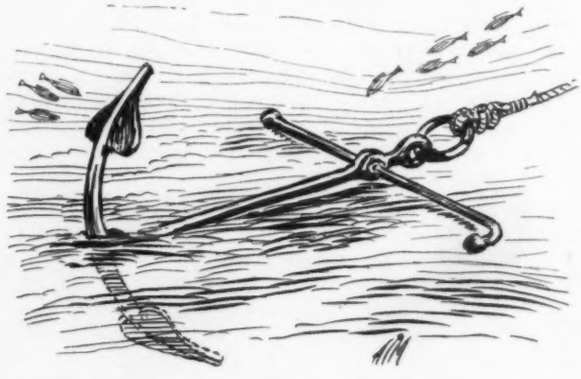
No part of the boat's equipment is as important as the ground tackle; and the boat's safety depends more upon the proper use of the anchor than any other one thing. In the first place, one should see that he has an adequate equipment of anchors and cables. This should consist of at least two anchors, one of medium size for ordinary use in protected harbors, and a very heavy one, capable of holding the boat in any blow that she is likely to meet. There should be a separate cable for each of these, the length depending somewhat upon the depth of the water where the boat is used, but in any event they should be at least 200 feet long, and preferably longer. There are many different kinds and shapes of anchors, such as those with wooden stocks, the stockless type, folding anchors, etc., but every boat owner is familiar with the various kinds, and their comparative merits need not be discussed here except to say that some shapes are better adapted to the characteristics of the bottom of certain localities than others, and for this reason it is usually a good plan to adopt the style of anchor used by the natives of the locality in which the boat is kept. For example, on a sandy bottom an anchor should have long shank and stock and rather sharp, thin flukes; while for a mud bottom a short, chunky anchor with broad flukes is best.

For yachts, anchors with portable stocks (the crossbar near the top of the shank) that are easily stowed, or folding anchors, where the arms as well as stock fold back against the shank, are in almost universal use, and give excellent satisfaction because they can be stowed in small space, and do not have to be left hanging at the bow, as was the case with the old rigid anchor. In getting your anchors be sure that you buy galvanized ones, and if a chain cable is used, the chain should be galvanized also, as nothing is so hard on the paint, both of the sides and deck, as an ungalvanized anchor or cable, the rust streaking both in a very short time.

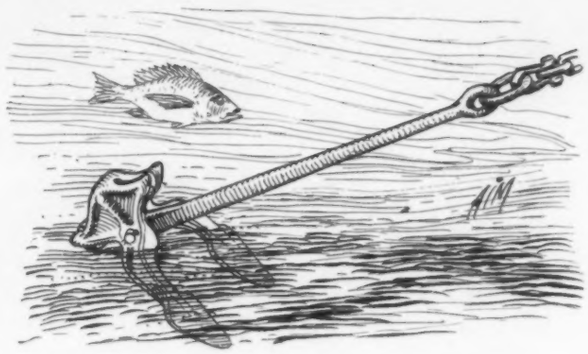
It is impossible to give any hard and fast rules as to the proper weight of anchors for a given size of boat, as many elements have to be taken into consideration. A boat with high freeboard and high cabin house or much top-hamper, requires a larger anchor than one with low freeboard and good draft. Displacement alone cannot be taken as a guide, as a deep boat with large displacement will hold on better and cause less pull on the cable than a light draft boat sitting on top of the water,



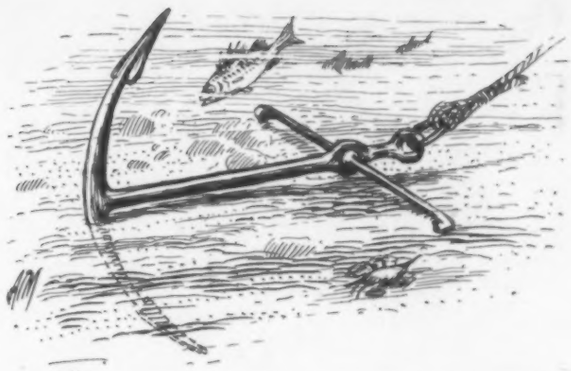
POSITION OF ANCHOR ON BOTTOM BEFORE THE PULL OF THE CABLE TURNS IT OVER.



WHEN THE STRAIN COMES ON THE CABLE THE ANCHOR IS TURNED OVER AND THE LOWER ARM BITES THE BOTTOM.



IN A STOCKLESS ANCHOR BOTH ARMS BITE AND HOLD.



A SAND ANCHOR WITH LONG, NARROW ARMS AND FLUKES.

with high topsides offering resistance to the wind. A table, which was published in the April number of YACHTING, will give the approximate size of the cable and anchor necessary for boats up to 90 feet in length. At best these are only approximate, but they will serve as a guide, and in every case lean to the side of safety. On rivers or sheltered waters somewhat lighter equipment will suffice, but on open or rough water it is best to stick to these sizes.

	Diameter.		Anchors.	
LENGTH OF BOAT.	Rope Cable.	Cable Chain.	Ord.	Hvy.
Under 30 ft.....	¾	—	40	60
30 ft. to 40 ft.....	1	¼	60	80
40 ft to 50 ft.....	1¼	5-16	70	100
50 ft. to 60 ft.....	1⅜	⅜	90	120
60 ft. to 70 ft.....	1½	½	100	140
70 ft. to 80 ft.....	1½	½	120	160
80 ft. to 90 ft.....	1¾	⅝	135	180

In addition to the two anchors already mentioned, it is a good plan to have a light kedge anchor for use when anchoring for a short time only, or for a stern line when it is desired to use one; or for keeping the bow or stern from swinging when lying against a dock or some other obstruction. While grapnels may be carried for light anchors or for mooring the dinghy, they are not reliable for anchoring and do not "bite" or hold well.

When an anchor is let go from the bow it goes down crown first until it strikes the bottom, when it falls on one side with one end of the stock resting on the bottom. As the vessel drops astern and the chain paid out, the strain pulling on the ring at the end of the shank, turns the anchor over until the stock lies flat and the point of one of the arms or flukes "bites" the bottom, any further strain tending to sink it further until it gets a good hold. For this reason it is necessary that the vessel should have no "way" on it when the anchor is let go, but should be at a standstill, or dropping back with the force of the wind and tide. If in a sail boat, this is always done by bringing the vessel up into the wind until she loses her headway and starts to drop astern, when the anchor is let go and cable paid out.

On a power boat this can be more readily done by killing her headway with the reverse gear and, after the hook is let go, giving her a kick astern so that she will take as much cable as is desired, when a turn is taken over the bitts, checking the momentum, and making the anchor bite well.

FISHING AN ANCHOR WITH FISH TACKLE AND BALANCE LINK.

In a stockless anchor there is no stock and both flukes go to the bottom together. In most of them the shank is pivoted so that the arms, or flukes, swing a certain distance each way, and when the crown strikes bottom the pull of the cable starts to drag the anchor until the points of the arms catch and both flukes bury themselves in the ground. Many yachtsmen like the stockless anchor as there is no stock to foul the cable; but there is still some prejudice against their use by "shellbacks" who do not believe that they have the holding power of the old-style anchor with a round crown and long arms. However, they are coming into such general use on modern steamships, in the navies of the world and even on steel sailing ships that this prejudice seems to be uncalled for. With two anchors of equal weight there are two broad flukes "biting" the bottom on a stockless anchor to one on the old style, though the latter, of course, has the additional friction of the stock lying on the bottom.

IN RIDING TO TWO ANCHORS GIVE THEM PLENTY OF SCOPE, BUT NEVER HAVE THE CABLES LEADING AT A GREATER ANGLE THAN 30 DEGREES.

After anchoring, be sure to give her enough cable. Many

BULB SHANK MUSHROOM ANCHOR, SHOWING WEIGHTED SHANK.

boats get into trouble merely because enough scope is not paid out when anchoring. Even in a protected harbor a sharp squall may cause a boat that is riding high out of water to sheer and drag, and unless plenty of cable is down she may go sailing all over the harbor, especially if she drags toward deeper water. If a boat swings badly it is apt to break out the anchor and cause it to drag. This is caused by the strain coming on the cable when it leads off at an angle from the anchor, tending to pull the latter and break out the fluke from the bottom.

The length of cable necessary will, of course, depend upon the depth of water, but when anchoring for any length of time, or even for over night, four or five times the depth of water should be paid out, and if it looks as if there would be much wind, something more should be given her. It is always advisable, when coming to anchor, to see that everything is ready forward in plenty of time and avoid any danger of delay or fouling when you have picked out your berth and rounded to. If you have a chain cable it is well to range over on deck in three or four foot lengths the scope you are going to let go, so that it will run clear. Get the shank painter off if the anchor is swung forward, or if the anchor is carried aft get it forward, opened out and the cable bent on. If the cable is hemp, see that it is all clear to run, with no bights crossed and the running part leading from the top of the coil. In coiling, the smaller bights should be laid inside the larger ones.

A FOLDING ANCHOR CAN BE STOWED IN VERY SMALL SPACE.

When coming into a harbor, especially a crowded one, pick out your berth and then look to see how the tide and wind serve. If in a sail boat, you will, of course, have to round up into the wind, but if in a power boat make up your mind which will have the most influence on the boat, the wind or the tide. If these are running in the same direction it is, of course, a very simple matter to slow down, round up, give her the reverse motion where your judgment and previous experience tell you how far she will carry, and as soon as she has come to a dead stop, let go and back up as explained before. If you figure that the tide is the strongest (and this can readily be seen by noticing the way the other boats swing) round up head to the tide, and let go in the same manner as before.

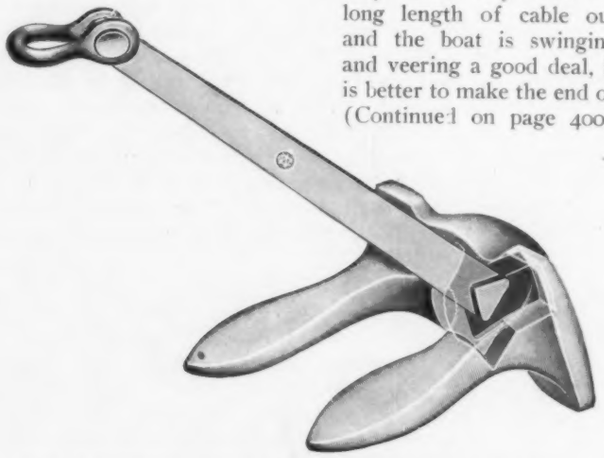
Try to pick out a berth that you will be satisfied with, for nothing is more irritating to other vessels anchored near than to have a boat come in, drop her hook and immediately get it up again and hunt for another berth. Also, take lots of room if possible, for any miscalculation in carrying too much way, will often result in damage to other boats. Never anchor in the channel and never crowd in and anchor where there is danger of swinging against other boats already anchored.

In laying your cable down below, always see that the "bitter end" is securely made fast so that if it is ever necessary to let go in a hurry some time with "way" still on, so as to bring her up short, you will not lose anchor and cable in case the man forward forgets to take a turn on the bitts. After anchoring be sure that a sufficient number of turns are taken on the bitt or Sampson posts, the last one being a back turn to prevent any slipping. If there is a windlass or gypsy forward, two or three turns should be taken around the drum from the inside out, before the holding turns are taken over the other arm of the windlass. After making fast, take a range on shore and watch it for a few minutes to see if you are holding. In taking your turns on the bitt, the part of the cable leading from the anchor must be the lowest and the other turns taken on top of it, as otherwise it would jam. Be sure that the turns are properly taken on the windlass so that it may be hove in when weighing without having to take all the turns off and put them on the other way.

FISHERMEN'S BEND.

If it is ever necessary to let go a second anchor, let it go from the opposite bow. Pay out enough cable on the first anchor to allow some scope to run out on the second, and take a turn over the bitt with the second cable, letting enough strain come upon it to make the anchor bite; or heave in on the first cable, let go second anchor and give scope to both. If the boat is dragging on the first anchor, all that is necessary is to pay out on the second cable, and wait until the boat has fetched up on second anchor and caused it to take hold. A boat will not veer as badly riding with an anchor from each bow as she will with a single anchor; but on the other hand, unless there is an equal amount of scope out on each cable, I do not think that a boat will hold as well as she will with two anchors dropped tandem. This is done by attaching another anchor on the same cable and veering away, and is called "backing out an anchor." It may sometimes be necessary to bend on another length of cable to the "bitter end" in order to get enough scope to prevent dragging. If it is blowing very hard and you have a long length of cable out and the boat is swinging and veering a good deal, it is better to make the end of

(Continued on page 400)



TYPE OF STOCKLESS ANCHOR WITH FLUKES PIVOTED ON SHANK.

The Month in Yachting

START OF THE NEW YORK TO POUGHKEEPSIE AND RETURN RACE.

TWO of Chicago's finest yachting trophies seem to be suffering from anæmic failure. These are the Sir Thomas Lipton trophy of the Columbia Yacht Club and the Sir John Nutting Cup of the Chicago Yacht Club. The Lipton trophy, which has furnished some of the greatest sailing contests ever seen on these waters, has had hardly a new contender now for four years, the same little group of 21-footers hammering around the course every year. It has really become a question of atmospheric conditions altogether. If it blows, the Cup goes to Columbia, if the airs are light it is a walk-over for Spray. Interest has thus been lost in the contest and unless something is done to change the class, it is likely that another season will see the trophy fall into disuse from lack of support.

The class which was boosted so strenuously by the adherents of the type has not proved the success it was hoped for. It has developed boats of a flat, frail type, the type that the Universal Rating Rule is doing so much to stamp out. Most of the boats are merely glorified scows and are neither comfortable as cruisers, able as seaboats, convenient for afternoon sailing or of sufficiently restricted sail area to be easily handled by limited crews. The movement to secure a new class to race for this magnificent piece of plate is growing every day, and it is likely that this winter will see it crystallized into a definite plan. The Nutting Cup has not hit the yachtsmen very hard. Originally dedicated to the upbuilding of an 18-foot class the restrictions placed on the class made it exceedingly hard to find competitors. Boats had to be built on purpose for the race, and as they fitted no other class on the Great Lakes very few found incentive enough in the one event to warrant building a boat especially for it an object. Later the deed of gift was amended because after the first season it was found that none of the boats originally built for the class would measure in. Then it was decided to take in the 21-foot raceabouts, but owing to the fact that most of these were on the other side of the lake, and were too small for the 110 miles thrash across, the entries fell off until this year only two starters came to the line the first day. Here, too, it is likely that something will be done this season. The Nutting trophy is a magnificent one and if it is rightly placed will be raced for eagerly. It is possible that the deeds of gift of both these trophies will be amended so that the holding club will have the running of the race. Opposition to racing for the Lipton Cup has arisen over the fact that it must be raced for in Chicago. This applies also in the case of the Nutting Cup. If these trophies were made over with a deed of gift permitting the club holding the trophy to conduct the race for it, it is certain that there would be a revived interest in the sailing.

BUG, FORMERLY HAZEL, A 16-FOOT HYDROPLANE WHICH WON A 68-MILE RACE FROM A 185-FOOT STEAM YACHT.

The motor boat racing season was brought to a close in the East by the annual race for speed boats from New York to Poughkeepsie and back, under the auspices of the National Association of Engine and Boat Manufacturers. This race has usually been held in connection with the National Carnival, but owing to the fact that the Carnival was held at Huntington Bay this year, the race was postponed and run September 28th. One hundred and fifteen nautical miles is a long jaunt for a little speed boat under 20 feet in length, and yet several of that size were entered in the event

and plugged over the long course, the water in many places being rough enough to cause the boats some trouble.

Interest centered in the contest between Peter Pan IV, James Simpson's fast racing runabout, Edith II, and A. E. Smith's Hazel, which now bears the euphonious name of the Bug, re-christened for a reason that is obvious to anyone who has seen the little boat crawl over the water. Peter Pan IV took the lead at the start but was eventually passed by Edith II, these two boats with Elmer L and the Bug cutting out the pace. To show how close the boats were matched, but 4 minutes and 30 seconds separated the first four boats at the finish line, Edith II finishing in the van 53 seconds ahead of Peter Pan IV, followed by Elmer L and the Bug. Corrected time, however, makes the Bug an easy winner. The elapsed time of the first boat at the finish was 5 hours 8 minutes and 42 seconds, a record for the course.

The elapsed and corrected time of the race was as follows:

Race to Poughkeepsie and Back—115 Nautical Miles — Start, 10:00.

	Finish.	Elapsed.	Corrected.
Edith II., A. V. Smith	3 08 42	5 08 42	4 09 17
Peter Pan IV., J. Simpson	3 09 35	5 09 35	4 09 32
Elinor L., II , L. de Long	3 12 24	5 12 24	4 53 36
The Bug, A. E. Smith	3 13 12	5 13 12	3 18 48
Breeze L., S. S. Breeze	3 45 21	5 45 21	4 45 56
Vita, J. Stuart Blackton	Not timed.		
Slippery Goose, B. Cronin	Not timed.		
Tequila, David Dows	Disabled.		
Gunfire, Jr., W. J. Brainerd	Disabled.		
Pazaza, F. J. Gregory	Not timed.		

Speaking of the Bug, formerly Hazel, brings to mind the wonderful race which this little 16-footer ran on Long Island Sound against Frank J. Gould's 185-foot steam yacht Helenita. The race grew out of Mr. Gould's skepticism of the little hydroplane's ability to "stay" over a long course, and he was willing to back his opinion to the extent of $5,000, coin of the realm, against an equal amount put up by Mr. A. E. Smith, owner of the Hazel, for a race from Huntington to New London, 68 nautical miles in the open waters of the Sound. Let it be known that Hazel is a hydroplane yacht tender of the type developed by the Electric Launch Co., 16 feet over all, equipped with a 60-H.P., A. & B. motor, and had shown a speed of close to 29 knots an hour.

Two starts were made, Hazel breaking her chain gear in the first one before she had gone 200 yards, whereupon Mr. Gould stopped his boat and offered a postponement. Appreciating this sportsmanlike offer, Mr. Smith had Hazel ready a few days later and the two boats got away from Huntington at 2 o'clock in the afternoon. On board her were A. E. Smith, her owner, and Irwin Chase. Hazel immediately took a long lead and kept well over to the Long Island shore until she reached Plum Gut. She then crossed the Sound and finished at 4.53, having taken 2 hours and 53 minutes to run 68 nautical or 78 statute miles. Fifty minutes later, at 5.43.20 Helenita finished, having made a good run.

It was a remarkable performance for a little boat and shows the wonderful endurance that can be obtained even in a boat of this size on a trying run. The result of this and other races of the season have demonstrated the practicability of the hydroplane design in small boats for hard and continuous use.

PETER PAN IV, A 26-FOOT 27-MILE SPEED RUNABOUT.

It will be remembered that the Bermuda race for sail boats of 1911 failed for lack of enough interest on the part of the owners of sailing yachts to enter their boats. This was particularly unfortunate, as the race this year was to be from Boston to Hamilton, Bermuda, and a great deal of preliminary work had been done by Mr. Hollis Burgess and the Boston Yacht Club, under whose auspices the American end of the race was to be handled. The city of Boston donated a $500 cup for this event, and it seemed, early in the season, that one of the best races to the Islands was assured. The races were originally scheduled for the end of May; then it was postponed for a week and Harold Vanderbilt's Vagrant was the only boat that appeared at the line for the start, and she, of course, would not take a sail over. As there was no race the Mosquito Fleet Yacht Club of South Boston finally secured the $500 City of Boston trophy for an ocean race of 30 miles from South Boston to Nahant, thence to Boston Lightship and return, open to all yachts of 55 feet over all length, and under, sailed on the Herreshoff time allowance basis, with the exception of the Class A of the Inter-Club Association which class had to allow B and C 15 minutes over the Herreshoff allowance. The race was won by the sloop Marie L, owned by Hollis Burgess and representing the Quincy Yacht Club, which defeated the Arawak by 11 seconds corrected time. Feeling, however, that the Cup, which was for the purpose of promoting ocean racing, should still stand for what its owners intended, Mr. Burgess had presented the Cup to the Inter-Club Association of Massachusetts Bay as a challenge cup for an ocean race, to be held every Labor Day, the race to to be held over an outside course of not less than 25 or more than 50 miles in length. This was a very sportsmanlike thing to do and should have the effect of keeping alive interest in outside racing in Massachusetts Bay.

It is to be hoped that the failure of the Bermuda races this year does not mean that these stirring contests are at an end, and that yacht owners are going to forsake the strenuous off-shore thrash for the milder racing of home waters.

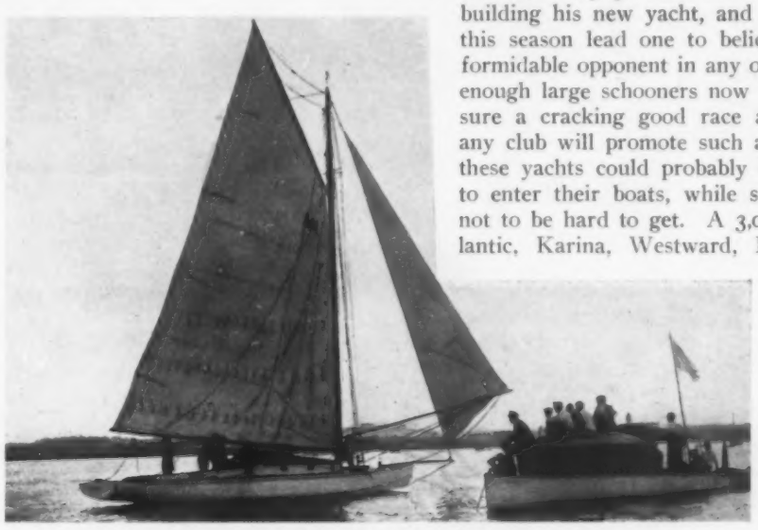
Out on the Pacific coast they are planning already for next year's Trans-Pacific race from San Pedro to Honolulu. This race is held every two years and from present prospects a much larger field is assured this year than ever before. Unfortunately, prospects do not always materialize into starters, but interest in the Pacific classic has not waned, and although there are a number of boats already built that have signified their intention of going this year, several boats are also being built that are expected to be ready for the gun on July 4th.

The Atlantic Yacht Club season closed the latter part of September after a particularly good year in which the principal racing was done by the "Q" Class boats and by the "S" Class, several new boats in each of these classes having made their appearance. In these classes, while the older boats held their own with the new comers, and in fact did somewhat better, the racing was evenly balanced so that no one boat had a soft thing

START OF Q CLASS BOATS AT ATLANTIC YACHT CLUB.

in any one class. The race week of the Atlantic's was well attended, and the hard-working Regatta Committee earned the thanks of the Club and of all Gravesend Bay sailors.

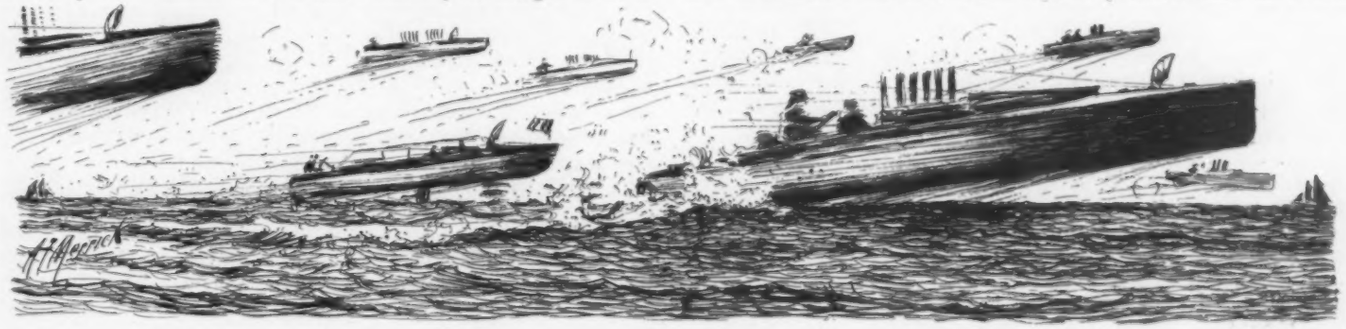
It looks probable at this writing that the Cape May Cup Race of the N.Y.Y.C. will be an open event next year and the Atlantic will have an opportunity of defending this historic trophy against a much larger fleet than was entered this year, and those owners who desire ocean racing will probably enter their yachts in such a liberal way as to make a more interesting competition for this series of races than has been the case in the last few contests.



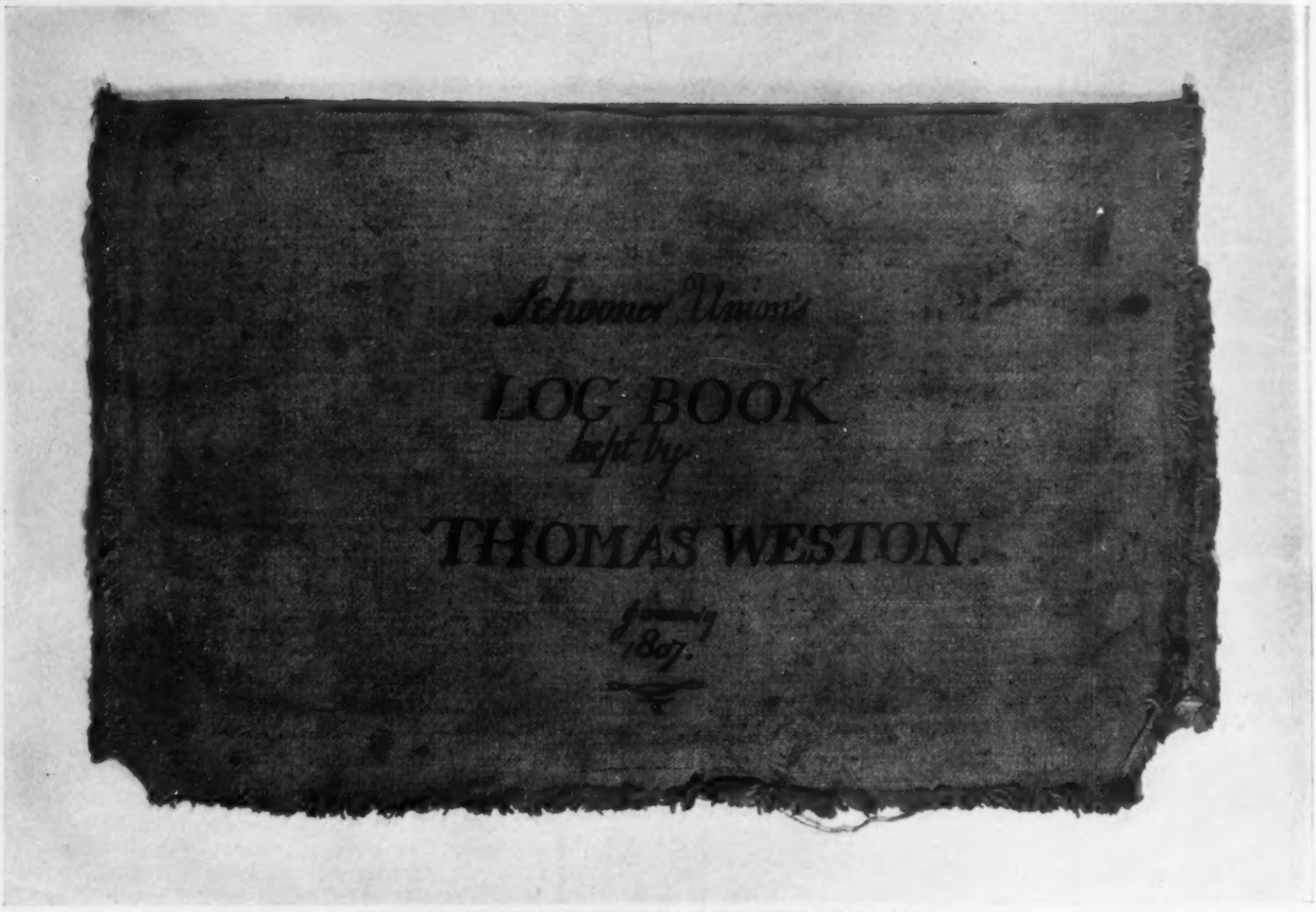
MARIE L WINNING THE CITY OF BOSTON BERMUDA RACE CUP.

It is also possible (in fact it is rumored on good authority) that Commodore Robert E. Tod, owner of the winner of this year's Brenton Reef Cup Race will have to defend the Brenton Reef Cup next season. It is assured that any challenger will find no obstacles in the way of getting a race. Karina will probably be a ready ocean racer in all future contests. In fact, the Commodore is said to be anxious for another trans-Atlantic race such as that in 1905. He had such a contest in view when building his new yacht, and the few races he has sailed this season lead one to believe that she will be a most formidable opponent in any off shore contests. There are enough large schooners now racing in this country to assure a cracking good race across the western ocean if any club will promote such an event, and the owners of these yachts could probably be induced with little effort to enter their boats, while several foreign entries ought not to be hard to get. A 3,000-mile contest between Atlantic, Karina, Westward, Elena, Iroleta, Enchantress, Germania, Meteor, Water Witch, and a number of others that could be mentioned would certainly be a race to stir the hearts of all racing yachtsmen.

It is not too much to hope that such a contest may be arranged in the next year or so. The Atlantic Y. C. agitated it a few years ago but gave it up temporarily as the time did not seem propitious. With the present fleet that is available the time seems ripe to promote such an event.



THE HYDRO-AEROPLANE OF 1912.



FAC-SIMILE OF FRONT COVER OF THE LOG BOOK OF THE SCHOONER UNION.

IN rummaging through the attic of an old house in historic Plymouth some years ago, an ancient sea-chest was unearthed, tucked away in one corner of which was a log book of a sailing vessel of unusual interest, inasmuch as it is a record of a voyage made from this country to Europe in 1807—one hundred and five years ago.

Soiled and faded as it is, the ink with which it was kept is plainly legible, while the cover, made from a piece of canvas by the mate that kept it, is as strong as ever, though the edges are frayed and dog's-eared. The book is a record of a voyage of the schooner Union from Plymouth, Mass., to the Mediterranean, kept by one Thomas Weston, mate of the vessel, and as far as it goes, portrays vividly life at sea in those early days, and brings out strikingly the conditions which seamen were then forced to meet.

This Thomas Weston was a young man at the time, the record from the family bible showing that he was born on November 13, 1788, so that he was only 18 years old at the time the log was kept. The records also show that he died the following year while on a voyage to St. Pierre, Martinique.

On the front of the book the lettering, done by the mate, shows what the book is, while on the reverse side is a free-hand pen drawing of the schooner Union, by the same artist. This shows her to be a little topsail schooner of some 75 or 80 tons with a high poop something after the fashion of the old fishing pinky. The foremast is stepped far forward, leaving a long main boom to which the topping lift is rigged in the identical way that it is today on the Gloucester fishermen. The boat was evidently steered by a tiller.

At this period of American history there was a big trade between New England and Europe, especially the Mediterranean, and Plymouth was a prosperous port owning a big fleet of vessels. It was a trying period at sea, as American ships were liable to be overhauled and searched, and often confiscated both by the English and French men-of-war, and while the log in question does not recount any exciting incidents, it does show that they were boarded by a foreign man-of-war and were constantly on the look-out for them. We reproduce in fac-simile the front and back cover of the log and a portion of one of the leaves, ruled up by hand, showing how little the method or form of keeping these records has changed in the last century. In every case we have kept the original spelling as it appears, and while this varies somewhat, as was the custom of the times, the log is very well kept. The voyage was one of the usual trading voyages, with the master in charge of marketing the cargo, and the Mediterranean ports of Spain and Southern France were visited. Unfortunately, some of the pages are missing, so we cannot print the full story of the cruise.

Remarks on bord, Tuesday, February 24th, 1807.

The first part of these 24 hours light gales from the S. W. Saw several portuguese men of war and a number of other vessels. Employed myself in painting the long boat. At 2 A. M. hove too supposing the land to be Maliga, at 8 made sail

and stood to the Eastward with a light breeze. So ends this day all well.

Remarks on bord February 25, 1807. Wednesday.

This day begins and ends with light gales and clear weather. At 8 P. M. Maliga bore N.E. B.N. distance 20 miles. At 2 A. M. hove too. At 6 A. M. made sail and stood in towards Maliga. At 12 M came to an anchor in Maliga Bay. So ends this day all well.

Remarks on bord February 26, 1807. Thursday.

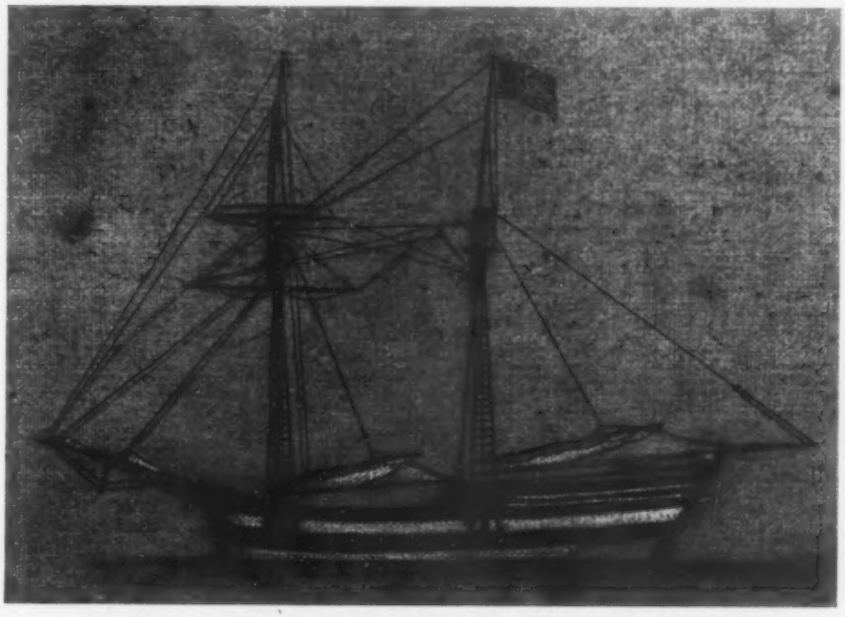
This day begins with light gales and clear weather. At 2 A. M. hove out the boat and the captain went on shore to try the markets. At 2 A. M. broke open the fore hole to get out some wood. At 4 P. M. hoisted in the boat again and got ready for sea. At 7 A. M. weighed anchor and stood on for Alicant. Latter part, light gales and clear weather. So ends this day all well.

Remarks on bord February 27, 1807. Friday.

This day begins with light gales and clear weather. Saw a number of small craft and one brig. Middle part calms. Latter part light gales and clear weather. Employed all hands in ship and myselfe in making a table for the cabin. So ends this day all well on bord.

Remarks on bord February 28, Saturday.

The first part of this 24 hours light gales and clear weather. At 1 P. M. Maliga bore N. W. distance 40 miles, from which I take my departure, being bound to Alicant. Maliga's Latt 36.42 Long 4.15 Middle part gales continue and clear weather. Latter part more moderate and smooky weather; several sail in sight. So ends this day. Course N. 84. E. Latt by D. R. 36.47 Diff Long 188, Long 1.7.



FAC-SIMILE OF DRAWING OF THE SCHOONER UNION MADE ON THE BACK COVER OF THE LOG BOOK BY THOMAS WESTON.

Remarks on board Sunday 1st March 1807.

The first of this 24 hours light gales and clear weather. Middle part fresh gales and flying clouds. At 6 A. M. tack ship and stood to the northward, at 7 reeft topsail. Latter part fresh gales and smooky weather. Saw several sail standing to the westward. So ends this day all well. Course N. 28. E. Latt. by D. R. 37.26 Dif. Long. 16. Long. 0-56 m.

Remarks on bord Monday March 2nd, 1807.

This day begins with fresh gales and cloudy weather. At 2 P. M. tacked ship. At 6 P. M. refft mainsail took in flying gibb. At 8 took in the topsail. Middle part gales continued fresh and cloudy weather. At 4 A. M. tacked ship and stood to the northward. Latter part gales continue fresh and clear weather. Saw a number of turtles. So ends this day. Variation 1 3-4 point.

Remarks on bord Tuesday March 3rd, 1807.

The first of this 24 hours fresh gales and clear weather. At 2 P.M. tacked ship and stood to the southward. Middle part calm and clear. Allowed for the heave of the sea 1-2 knot per hour to the westward. Latter part clear weather and calm. So ends this day all well.

Remarks on bord Wednesday March 4th.

This 24 hours begains with light gales and clear weather. At 10 P.M. Cape (?) bore north, distance 3 miles. There being a current I have outrun her by my reckoning. Middle and latter part flattening. At 8 A. M. spoke the ship Antellope, Thomas Lovingwell, master from Boston for Allicant, out 52 days. Saw another ship to the southward standing north east. So ends this day all well on board.

Remarks on bord Thursday March 5th.

This 24 hours begins with light gales and clear weather. Middle part fresh gales and clear. At 8 P. M. hove too in company with the ship Antelope. At 4 P. M. made sail and stood in for Allicant. At 8 A. M. was hove to by a Spanish Privateer. At 12 came to an anchor in Allicant Harbor and was visited by the visit boat. So ends this day all well on board.

Remarks on bord the remainder of the day, Astronomical account Thursday March 5th.

The latter part of this 24 hours fresh gales and cloudy weather from the N. W. Unfastened our hatches and broke up the fish. Found them in excellent order. Stowed the remainder of the fish that was in the cabin in the main hole. Bent our hawser to the kedge and mored with it.

Remarks on bord March the 7th, Saturday, 1807.

This day begins with fresh gales and cold clear weather. This day scraped the inside of the waste and gunells. In the night there was a great deal of snow fell in the mountains. Latter part gales and weather continue the same as first. Broke open the half deck hatches to air the fish. So ends this day.

Remarks on bord Monday March 9th 1807.

The first part of this 24 hours light gales and clear weather. Striped our mainmast and overhauled the rigging and got it up again. Latter part continue moderate and clear wether. Went on shore to the mould for water. Hove up our anchors and hauled in nearer to the shore, so ends this day all well on bord.

Remarks on bord Wednesday March 11th 1807.

This day begins with pleasant gales and wether. Come up with our main riging and squared the dedeyes. Latter part fresh gales and clear. So ends this day all well on bord.

Remarks on bord Friday March 13th 1807

This day fresh gales from the Eastward and cloudy wether. Lashed our water casks and cleared up decks ready for sailing. There being considerable sea agoing, she leaked very bad. So ends this day all well on board.

Remarks on bord Monday, March 16th, 1807

This day begins with light gales from the Westward and clear.

At 4 A.M. unmored. At 6 A.M. weighed and sailed from Allicant bound to Marsells. Hoisted in our boat and stowed her and cables and anchors. All sails set.

Remarks on bord Tuesday March 17th 1807

This day begins with fresh gales and clear wether. At 2 P. M. sea account, Cape St. Martins Bore N. E. distance 5 leagues, from which I take my departure being in the latt 38-47 N. Long 0° 5'E. Latter and middle part light gales and clear weather. So ends this day all well on bord. Variation 17° West.

Remarks on bord Wednesday March 18th 1807.

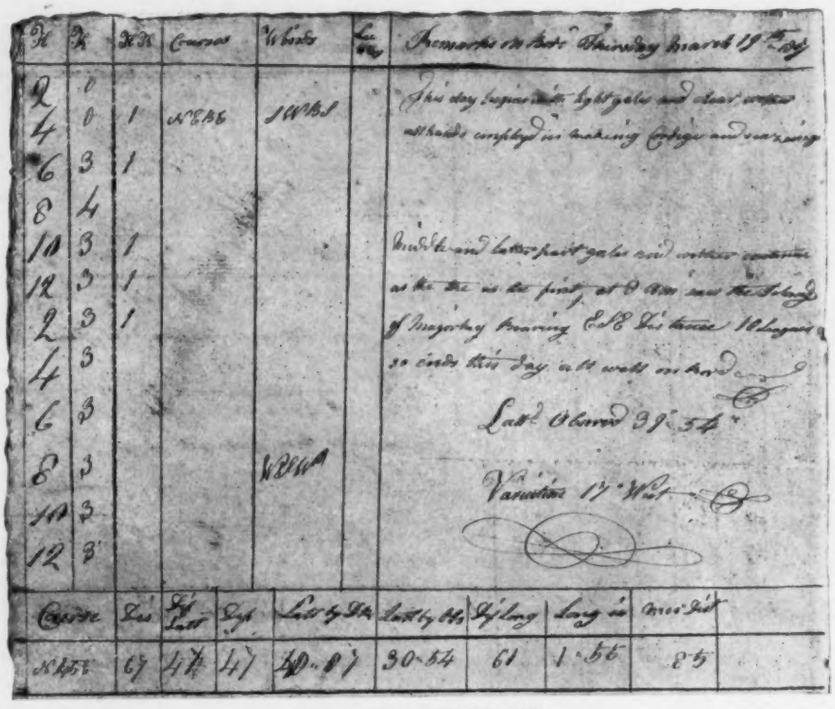
This day begins with light gales and clear weather, at 4 P. M. the island of Formentore (sic) bore S.S.E. Distance 3 Leagues and the island of Yoria Bore E.S.E. distance 5 leagues. At 4 P. M. tacked ship, middle and latter part gales, and wether continue the same as before, at 4 A. M. tacked ship stood to the northward, all hands employed in ship duty, so ends this day all well.

Remarks on bord Thursday March 19, 1807.

This day begins with light gales and clear wether all hands employed in making cordage and sea rigging. Middle and latter part gales and wether continue as of the first. At 8 A. M. saw the island of Majorky bearing E.S.E. distance 10 leagues, so end this day all well on bord. Latt observed 39° 44'. Variation 17° West.

Remarks on bord Sunday March 22nd 1807.

This 24 hours begins with light gales and squalls of rain. Employed myself in making a martingale. Middle part calm and clear at 8 P. M. Barcelona bore N. dis. 12 miles. At 10 P. M. was hove to by the English Frigate Nider, but not boarded. She was in chase of a Spanyard. Latter part light gales and clear. So ends this day all well on bord. Remarks on bord Wednesday, March 25.



A PAGE FROM THE LOG BOOK.

This 24 hours begins with fresh gales and cloudy wether. At 8 P. M. tacked ship. At 9 P. M. took in flying gibb, topsail and handed the mainsail. At 8 A.M. saw an island bearing E.B.S.

Remarks on bord Thursday, March 26th.

This day begins with fresh gales and rainy wether. At 2 P. M. tacked ship, stood to the southward. Saw a long leavel Beach. Judged it to be Cape Corrone. At 4 spoke a Brig standing to the northward. Was informed by her that we were to the southward of Marscills. Wore ship. Stood to the N. till 6 P. M. then saw high land bearing N. We hove to with head to S.S.W. At 6 A. M. made sail and stood on to Westward. At 8 A.M. made fort Brescon Bearing N.W. 18 miles distance. Latter part clear. All sail set.

Remarks on bord Friday, March 27.

This 24 hours begins with fresh gales and clear wether. At 12 on the meridian, fort Brescon bore N.W. 1-2 N. distance 18 miles from which I renew my departure, fort B being in the longitude of 0-55' East. Middle part gales more moderate and flying clouds. Latter part light gales and smooky wether. At 8 A. M. saw Cape Corrona bearing E. by N. At 11 it bore East. Distance 5 leagues. At 12 A. M. hove out our boat and took a pilot out of a fisherman's boat. So ends this day by sea account. All sail set.

Remarks on board Saturday March 28th 1807.

This day begins with fresh gales and clowdy weather, wind east to southeast. Hove to off the Islands. At 4 A. M. made sail and beat up above the Islands, at 8 A. M. bore away and run down to the fort and from thence into quarantine roads. At 9 moord head and stern with both cables and hawser. At 11 A. M. hove out the boat and the Captain went off to Marselles. This day ends with moderate wether and clear.

From March 28 to May 3rd was spent at Marseilles, discharging cargo and getting ship ready for sea.

On May 3rd they sailed for Alicante again, in company with the brig Swift of Newburyport, to load for home. Here they arrived the 13th and remained until the 23rd of May, loading a general cargo of grass rope, raisins, almonds, mats, etc., and sailed for home the 24. Unfortunately the last leaves of the book are missing and the log does not take us beyond the Azores on the homeward passage. It will be noticed that the mate uses the word gale constantly, meaning the wind, whatever its strength, and not in the sense we now use the word to denote a strong wind or storm.

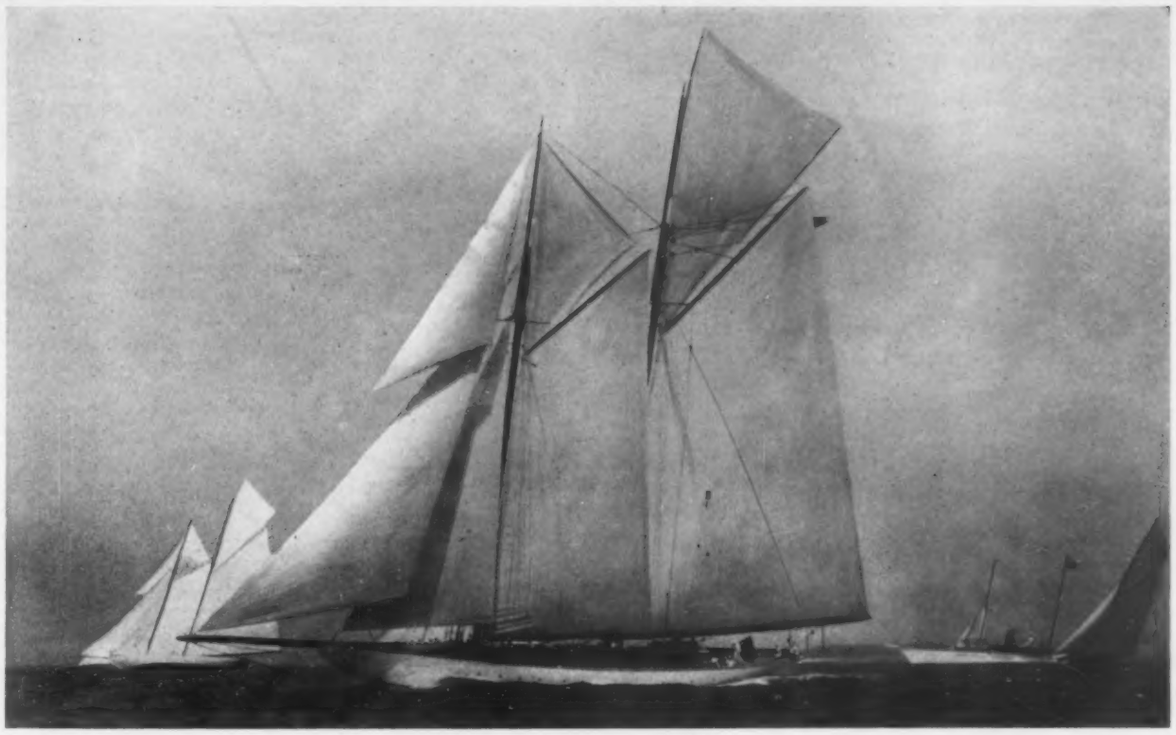
Remarks on bord, Sunday May 24, 1807. Sea Account.

This day begins with fresh gales and smooky wether. At 4 P. M. Cape Pallos bore N. W. distance 7 leagues. At 6 P. M. gibed ship. Middle and latter part gales more moderate. Set top gallant sail. At 8 A.M. Cape de Gatt bore N. 3 leagues distance. Spoke a Spanish privateer under English colours, though she did not board us. So ends this day all well.

Remarks on bord, Tuesday May 26.

This day begins with light gales and clear wether. At 8 P. M. tacked ship, stood to the northward. Paid the inside of the waste and main deck with tar. Middle and latter gales continue light and foggy weather. Saw a man of war with 2 decks stand to the westward and 8 Brigs standing the same way. So ends this day all well on bord.

(Continued on page 407)



ENCHANTRESS CROSSING THE STARTING LINE IN THE KING'S CUP RACE.

The 1911 Races for the Astor and King's Cups

AN ACCOUNT OF THE TWO MOST IMPORTANT RACES OF THE YEAR AS SEEN BY CAPTAIN HARRY HAFF FROM THE DECK OF ENCHANTRESS. A GREAT FIGHT BETWEEN THE FOUR BIG TWO-STICKERS.

By A. CARY SMITH.

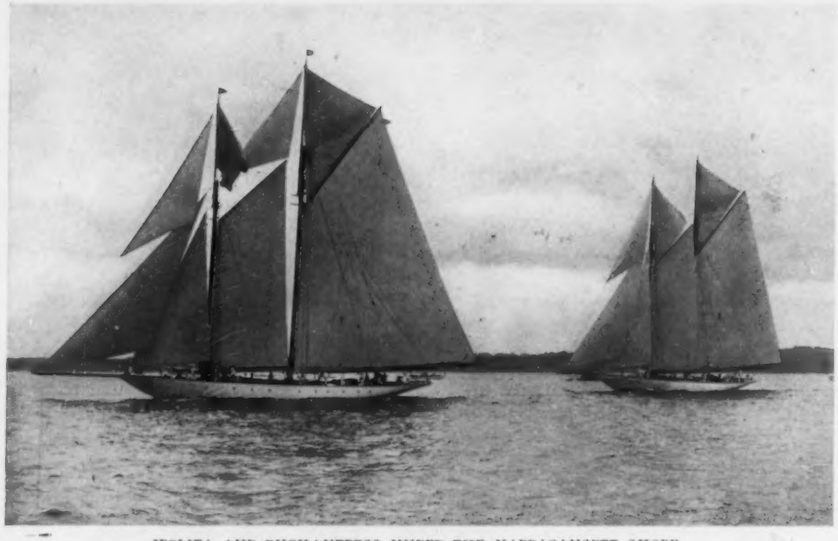
NO events of the New York Yacht Club cruise assume more importance in the eyes of yachtsmen than the annual struggles for the Astor and King's Cups, the latter trophy having been presented by the late King Edward VII, for annual competition. Bringing as they do the finest yachts on the Atlantic coast together in the final struggle of the 10-day cruise, the honor of winning one of these events is coveted by every skipper in the fleet. The races this year were particularly interesting, as they brought together four schooners, three of them new, that had never met before the New York Yacht Club cruise. Capt. Harry Haff, a son of "Hank" Haff, endeared to all Americans as the skipper of old cup defenders, and himself a sailing master of the first order, sailed on Enchantress as a helping hand to Capt. O. M. Smith, and has told me the story of these two races. As Haff is a man who has a faculty for remembering every detail of the race and the position of the various boats at all times, I am repeating his story in his own words, or as near them as I can remember.

THE RACE FOR THE ASTOR CUP FOR SCHOONERS.

Four yachts were entered in the schooner division, the Westward, Elena, Irolita and Enchantress. As the time for the preparatory gun drew near the wind was very light from S.S.W. and the start was postponed for a while, waiting for breeze to strengthen. When the preparatory signal was finally given, the wind was hardly more than a four-knot breeze. All four of the schooners played for the westerly end of the line, on the starboard tack, as they were to sail the Block Island course. As the time for the start drew near Westward and Irolita were off to the N.W. of the committee boat with Enchantress and Elena to the westward, all heading for the line. Westward was just astern of Elena and both were running down the line to kill time. As the starting gun boomed the Enchantress hauled up on the wind and crossed at the easterly end, close to the Lightship. Elena, being too far ahead, had to keep off, jibe over, run back and go about again, so that she crossed at the westerly end, Westward and Irolita having crossed ahead of her.

Elena at once tacked to port for the Narragansett shore and Westward and Irolita followed her. The Enchantress stood off on the starboard tack for 2 miles, hoping for a more southerly breeze, although the tide was flooding eastward, while under the shore it was beginning to set down. Not finding the wind any better and not very steady, being able to head only S.S.E., Enchantress tacked to port and headed W.S.W. for the tower at Point Judith. The other three stood well in to the Narragansett shore, then tacked off and all crossed the bow of Enchantress, the Westward by about ¼ of a mile and the Elena ⅛ of a mile, while the Enchantress had to bear away to clear Irolita. They all stood off about half a mile east of us and tacked to port. In a short time the wind began to haul southerly and we were able to head up S.W., the wind which we went after at the start coming in after the other boats had beat to the south of us. We were now fetching the whistling buoy off the Point and the tide was strong ebb and under our lee bow.

The Westward was still leading a half mile up on our weather quarter, with the Elena astern of her and the Irolita ⅛ of a mile to windward of our wake, but astern. As we opened out by



IROLITA AND ENCHANTRESS UNDER THE NARRAGANSETT SHORE.

the Point, Elena tacked to starboard and very soon the Westward and Irolita followed. We could see no reason in standing east with the ebb tide as long as we could lee bow it and keep on to the west. Coasters coming down from the Race were going out, and very soon the wind began to head us off and haul in toward S.W. We were heading from S.W. to S.W. x W. the wind breaking off until we were finally headed W. x S., and we at once tacked to starboard.

The Westward was now standing to port, the Elena and Irolita still going off shore. The breeze was now about 8 knots in strength and we were moving very well and crossed the bow of Westward a good half mile, and at once tacked on her weather bow, standing west until we could fetch the mark, which was now in plain sight and about 2 miles away. We stood on until the Westward tacked, and then went around and, being well to windward, were able to sail with a good hard full and fetched the mark in good shape, while Westward had to pinch and finally tack to get around. We had beaten her a little all the time and on the last two tacks, we were around 4 minutes and 3 seconds ahead, and were well satisfied. The Elena was next around and Irolita last. The course from here was N.E. x E. ½ E. 18 miles.

We set spinnaker and steered the course, Westward and Irolita following. The Elena jibed around and headed in toward Point Judith. When we had run down about 7 miles the Westward jibed and headed in shore, but we kept on for about 5 miles further, when we also jibed and headed in, but the wind was too light for our small balloons and we soon set spinnaker to port and kept off on our course. The wind had hauled a little more to the west as we drew in shore. The Westward passed us when within 2 miles of buoy and Elena passed us about ¾ of a mile from the buoy (these actual times I haven't got) the Irolita being well astern. It was now a close reach to the finish, 6½ miles. We were all able to fetch in and Westward and Elena dropped us a little on this run, but not as much as the time would indicate, as the wind kept dropping out as we neared the finish.

We were all well pleased with the result and were satisfied that we sailed the best windward course. Although we got the wind more westerly outside, and to the west of Point Judith, there was no earthly excuse to go east with an ebb tide. The Enchantress went about only four times on the windward leg while Westward tacked eight times.

ASTOR CUPS—FOR SCHOONERS—COURSE 38 MILES.

	Start.	Finish.	Elapsed.	Corrected.
Westward	11 30 47	5 28 44	5 57 57	5 49 49
Elena	11 32 00	5 35 42	6 03 42	5 55 59
Enchantress	11 31 08	5 40 55	6 09 47	5 58 39
Irolita	11 31 00	5 59 16	6 28 16	6 16 17
Vagrant	11 32 00	Withdrew.		

The Avenger won the Astor Cup for sloops from Adventuress by 21 minutes 5 seconds actual time and 5 minutes 56 seconds corrected time.

THE KING'S CUP RACE.

Weather clear and wind strong from S.W., about 12-knot breeze at start.

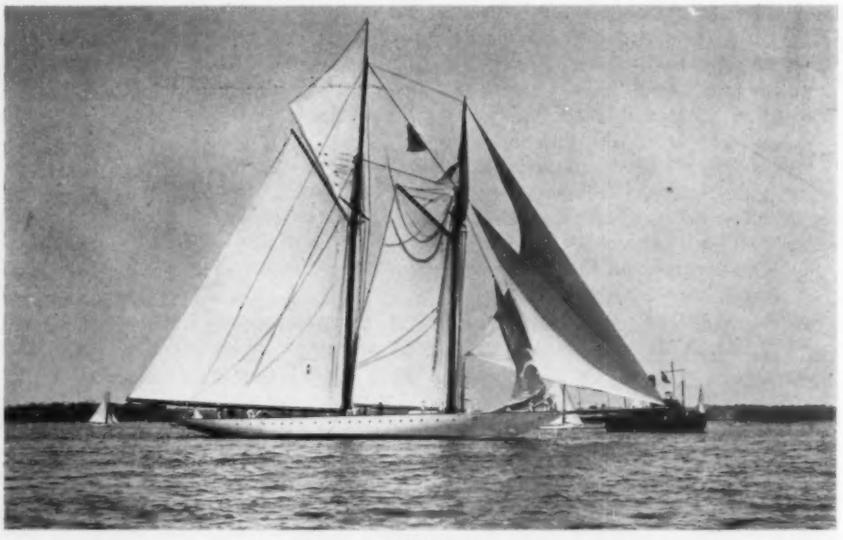
The same four schooners were on hand the next day and ready for a real fight, in addition to the sloops Istalena, Avenger and Adventuress. The manœuvering for the start was sharp and interesting, and it is no child's play to handle one of these large boats and get it to the line on the second, at the same time having your wind free and clear and all trimmed down and a move on. The course was to Block Island buoy again, thence 12 miles E. ½ S. and thence 10 miles N.W. x N. to starting point.

All played the west end of line, ready to go on starboard tack as the time began to run out. The Enchantress was in the best place, west of the line with good way on and to windward. The Elena was just ahead of her, but was too soon and kept off and ran down, having to jibe and go to leeward of Westward, which was under the lee of Enchantress.

As we came up to the line the Westward luffed up sharp and tried to come out to windward of us, but she did not have way enough and we were off on the gun and right under her bow, but the papers all said she had the weather position. She had to tack at once as she was getting our back wind. We stood off for about three-fourths of a mile, then stood to port.

The Elena had followed the Westward and Irolita and now stood off with us. When we got into the Narragansett shore the Westward, standing to starboard, crossed us by about 100 yards

(Continued on page 404)



ELENA.

MAPLE LEAF III IN THE BRITISH SEA-MILE RECORD.

The British Sea-Mile Record

MAPLE LEAF III'S SPEED 37.2 KNOTS. DOES NOT APPROACH DIXIE IV'S SPEED AT HUNTINGTON.

By J. RENDELL WILSON.

With an Editorial Note.

AT the four days' Burnham-Crouch meeting of the British Motor Boat Club the chief event was the contest for the English Sea-mile Record, the trophy being a 250 £ Challenge Cup. The contest consists of six runs per boat over the measured mile, with and against the tide, with a flying start. Mr. R. G. L. Markham, secretary of the Marine Motor Association officiated, and obtained the times accurately by being aboard of each boat, the boats being run singly. Last year Miranda IV was the winner with a true mean speed of 29.902 knots, while Baby V was second with 25.133 knots. This year's records are well in excess of these figures.

This year there were three starters, namely, Maple Leaf III, one of B. I. Trophy challengers; Debutante, a new Thorneycroft hydroplane, fitted with Miranda IV's 120-H. P. engine, and said to be an improvement on Maple Leaf III; and Baby V, a last year's 160-H. P. Brooke-engined displacement boat. Debutante was developing machinery trouble throughout the contest, and made only four runs, her true mean speed for these being 30.632 knots, but on her best run she made 33.333 knots. When in better running order, this being her first appearance, she should do well over 35 knots, but will now have to wait until next year, the Burnham meet being the last of the season, and incidentally the most successful, as nearly 200 entries from about 30 craft were received.

MAPLE LEAF AT TOP SPEED.

Baby V did not do as well as last year, although she ran with splendid regularity. Her true mean speed for the six runs was 24.388 knots. Her fast run with the tide was 26.239 knots, and the slowest against the tide was 22.472 knots. Her times for the six runs are as follows: 2 minutes 17 1-5 seconds; 2 minutes 40-1-5 seconds; 2 minutes 18 seconds; 2 minutes 37 2-5 seconds; 2 minutes 18 2-5 seconds, and 2 minutes 40 seconds. She is one of the prototypes of Tyreless III, which was another of the B. I. Trophy challengers, and is a very clean running and dry boat, designed principally for day cruising, basket chairs being provided for her passengers. Her six runs were made when a strong tide was running, while the runs of Maple Leaf III were carried out in almost slack water.

By attaining a true mean speed of 37.261 knots Maple Leaf III surpassed all previous speeds officially made by British craft. She is capable of doing better than this, but her engines are not yet running sweetly, and her skipper would not risk doing serious damage by getting every ounce of power and forcing her to do what it was claimed she did on her trials. Her times for the six runs are as follows: 1 minute 38 2-5 seconds; 1 minute 38 seconds; 1 minute 37 4-5 seconds; 1 minute 35 seconds; 1 minute 36 seconds; and 1 minute 35 4-5 seconds. The means of her speeds, and the true mean speed in knots is 37.261.

EDITOR'S NOTE. The result of these sea-mile records are interesting to all Americans, as they furnish a still further comparison of Maple Leaf's speed with that of Dixie IV. It was evident in the International Races that the British boat was not in the same class as the American over a long course, and at no time did she reveal a flash of the speed that had been claimed for her. It was also seen that in these races Dixie was not pushed, and that she did not make a higher average because she was not forced to in order to win the race—which is what she was after. This was proved three days later when she went after the sea-mile record at Huntington, and obtained it easily, making an average on six trials over the mile course, with and against the tide, of over 5 miles an hour better than her International race performance. The conditions of this race were practically identical with the British contest, which the Maple Leaf won. The following is Dixie's record, showing a mean speed of 39.26 knots or 45.22 miles.

Time Trials—One Nautical Mile.

Dixie IV, 1:30 3-5, 1:30 3-5, 1:31, 1:33 4-5, 1:32; mean of six runs, 39.26 nautical miles, 45.22 statute miles. Average time for one nautical mile, 1:31 :75.

Dixie IV, as everyone knows is a 40-foot single-step hydroplane designed by Tams, Lemoine and Crane, of New York, equipped with two Crane and Whitman engines developing about 550 H.P. It is doubtful if she has yet shown her best speed.

Maple Leaf III is a 40-foot Thorneycroft hydroplane with two 12-cylinder Astell engines developing 720 H.P. Her record trial for the mile follows.

Runs.	Time M. S.	Speed in Knots.	Means.				True Mean Speed in Knots.
1.	1.38 2-5	=36.585					
			36.660				
2.	1.38	=36.735		36.716			
			36.772		36.889		
3.	1.37 4-5	=36.809		37.062		37.091	
			37.352		37.293		37.261
4.	1.35	=37.895		37.524		37.432	
			37.697		37.571		
5.	1.36	=37.500		37.618			
			37.539				
6.	1.35 4-5	=37.578					

How Mavourneen Won the Mackinac Cup

WHAT A UNIVERSAL RULE BOAT DID ON THE GREAT LAKES IN A GALE OF WIND. A CONVINCING ARGUMENT FOR THE TYPE PRODUCED UNDER THE PRESENT MEASUREMENT RULE.

By EDWARD M. MILLS.

IT would not be human nature to deny a feeling of pride in achievement such as that which a yachtsman feels when he finds a dream realized and high hopes crowned with success; so I was delighted with the opportunity offered me by YACHTING to tell just how Mavourneen won the great Mackinac race of 1911. I can speak freely, almost with the freedom of an outsider, for I want to establish from the first that I played only a lay part in the actual sailing of her race to Mackinac Island. I had turned over the sailing and strenuous work of the race to Otto Schoenwerk and his fine crew from the crack raceabout Invader and I went along practically as supercargo, only too well pleased to have my boat in such excellent hands. My confidence was well repaid because the seamanship of Mr. Schoenwerk and his crew was beyond cavil, and this under such conditions as prove the mettle of skipper and crew to the utmost notch.

Ever since the adoption of the Universal Rating Rule by the Lake Michigan Yachting Association I have been a sincere advocate of the good type of boat promoted by the rule. It requires a powerful stimulus on Lake Michigan to induce the building of new boats, most yachtsmen preferring to buy second-hand from Eastern waters boats that have been tried and not found wanting. To establish the rule here and make it take hold it was necessary to prove its worth beyond question, and in bringing Mavourneen to Chicago I had high hopes that the boat would prove a success and demonstrate her speed, safety, comfort and those qualities which really make yachting worth while. We have had so many and such successful boats of the old scow type, with its long, flat overhangs and its defective, light construction, that the fight was bound to be a hard one, but I believe that Mavourneen's showing this year when she has won the three great cruising races of the year, the Milwaukee, the Mackinac and the triangular race to St. Joe, Michigan City and back to Chicago, has established her firmly, and with her the value of the Universal Rule as being capable of developing a higher and better type of boat.

MAVOURNEEN.

The Mackinac race of 1911, of which you read a report in the September issue of this magazine, was a most severe tryout and test of every quality for which supremacy was claimed by those who advocated the, to us, new Universal Rule. We got under way Saturday afternoon, July 22, at 3 p.m., crossing the line just astern of Illinois, which swung over within 10 seconds of gunfire. The light, easterly wind enabled us to set a course for Point Betsie and we held off just a trifle to enable us to carry our topsail and big reaching jib. Illinois drew away from us at the start and kept increasing her lead while we dropped Iroquois, Capsicum and Prairie astern. The big fellows that started 10 minutes later soon overtook and passed us, Amorita leading the fleet from the start under a splendid press of balloon canvas. The early night run was uneventful. We were able to carry a small spinnaker well forward and a balloon jib under it, and at daybreak, with a freshening breeze, we began to pull up on Illinois which we discovered to windward, perhaps 2 miles ahead of us. It was close racing up to this point.

Soon after 6 o'clock we passed Little Point Sable and by 8 o'clock we had pulled up about even with Illinois, though she was still well to windward. The wind kept increasing and the heavy moisture in the air and angry red sunrise gave indications, verified by a rapidly falling barometer, of coming storm. The temperature dropped with the humidity and the run up the shore was marked by increasing wind with an inclination to haul to the southeast. The sea began to make and after we got past Big Point Sable, Illinois, running closer in shore and finding smoother water, gained on us making up what we had cut down in the way of lead. Shortly after 2 o'clock we passed Frankfort and rounded Point Betsie with a young gale blowing that made a reduction in canvas urgent. The topsail had been doffed off Arcadia and, Illinois having stuck in two reefs, we soon after decided that it was the course of wisdom and followed suit. The old mahogany racer was leading us by about half a mile then, as we had done some great sailing and had not only cut down her lead but had made up the difference in her position to windward.

The run down to the Manitou passage was made at steamboat speed and when Sleeping Bear was off our beam we were running with the lee rail under solid water. The big point gave us smooth water, but the wind kept getting heavier and heavier and with it came squalls of rain that shut out the mainland and drove into our faces like sleet. We tucked in another reef and got in the

balloon which we had kept on, my crew proving again that when it came to a tight fight on canvas they had no peers. It was a strenuous job and for a while it looked as though we might lose it but it finally came aboard, and with a storm jib set we bowled along like a torpedo boat. By 5 o'clock the rain and flying spume had become so thick that the big steamer Manitou ran down on us before we knew she was near. We luffed up to let her go by, but her bow wave swept our decks from stem to stern and it was too close for comfort.

At 6 o'clock the wind had grown so heavy that we took in the mainsail and lashed the boom down to the deck after making it snug in the crotch. We set a storm trysail and slammed through the gathering seas like a runaway. The barometer had gone down so low that we knew we must be near the storm center, but the little boat behaved splendidly. Down below everything was snug and, turning on the lights in the stateroom, I spent a couple of hours reading the coast pilot so as to brush up on the points of the passage through which we should have to find our way in the dark of that terrible night. Down below it was difficult to believe that such a gale was raging outside. The rush of water along the sides and the occasional leap when striking a particularly heavy sea seemed to be no more than what might be expected under ordinary sailing conditions, and when I took up the cabin floor to see if she had made any water the bottom of the boat was barely moist.

Our cook was upset by the weather, but two of the crew turned us out a good meal and we prepared for the night run. Schoenwerk, who had stuck to the tiller all through, declared he was right on the course for Skilligalee and was holding 5/8 above his point to compensate for the leeway caused by the big seas. The boat yawed a bit, as the seas were getting to be enormous, but she handled well and was logging between 10 and 12 miles an hour under the storm rig. The barometer was going so low that we gave it up in disgust.

"Oh to h——l with the barometer," came profanely but emphatically from some wrought-up member of the crew, "it's headed the wrong way, anyhow."

The rain and solid water coming across the boat at every plunge bit like razor blades, and the darkness was so heavy it seemed blacker than any black I had ever seen. At 9:15 o'clock we picked up Skilligalee Light in a temporary clearing, and we went by two big steamers at anchor, one of them so close that they saw our lights and hailed us. An hour later we got a glimpse of Beaver Light just where we hoped to find it, off our port beam, and we held up for it, giving the point of rocks to the north plenty of room. It was a blessed relief to find we were so correct in our calculations. That clear, fixed light certainly looked mighty good to us.

Half an hour after passing it the wind began to moderate and through a clearing we saw the flash of Waugachance Light off to starboard. We caught sight of some vessel burning signals, and what looked like rockets off our port bow, but we decided afterwards that these latter must have been reflections from the White Shoals flashlight. At 11 o'clock we put up three reefed mainsail and rushed for the passage between Gray's Reef Lightship and gas buoy. At midnight the wind had shifted to the westward and softened down a bit, but the flying scud and cloud formations seen in the lightning flashes looked ugly, so we decided that the blow had not ended. At 1:30 a.m., we jibed boom to starboard and were reaching for Waugachance Shoal Light. The wind was then northwest and freshening.

At 2 a.m. we passed Waugachance Light, and with the wind aft shook out the reefs and set the reaching jib as a spinnaker. A big steamer passing played its searchlight on us which helped us to set the light canvas in seamanly fashion. Running down to the Graham's Reef gas buoy we went around it and found we would have to jibe, which we did, but the spinnaker halyard fouled and refused to come down, and we had to lash the sail to the shrouds as it was blowing too hard and the sea was too big to risk sending a man aloft. At 4:15 the breeze freshened so that we had to stick in two reefs, and jibe again. The run down to the finish was uneventful except for the puffs that laid us low and kept us busy all the way, the wind growing fresher every minute. At 4:57 we crossed the line and ran in to the shelter of the harbor. Amorita and Shark were in ahead of us but their decks were deserted.

MAVOURNEEN CLOSE HAULED.

We dropped the hook but the wind was blowing so hard that it would not take hold on the pebbly bottom and Mavourneen drifted badly. The further she drifted the more she was exposed to the wind and she finally piled up on Mission Point reef. A gasolene launch sent us a line and with that and the anchor lines we were able to pull off and made fast astern of Amorita. The extra weight on Amorita's anchor started her drifting, so we cut loose and the Baum schooner pulled out under power while we drifted back on the reef although we had three anchors out.

It was not till later that I knew that we had won the race on time allowance. Indeed our hands had been so full, what with going on the rocks and trying to get off, that we were too busy to worry much about the race.

The 24-hour pounding that Mavourneen got on Mission Point reef hurt her so little that she was able to come up the lake under her own canvas. It is a great lesson in the value of solid construction. Had she been an old-style boat I firmly believe she would have pounded to pieces on the rocks. Government records gave a wind velocity of 58½ miles per hour and 65 miles in the puffs.

It is not to be wondered at, therefore, that I feel proud of the great record made by little Mavourneen, skipper Shoenwerck and his hardy crew. And if the lesson will lead the yachtsmen of Lake Michigan to bring to Chicago more boats of this type I shall feel that I have not wrought in vain. We need a better class of yachts here, yachts that are staunch and speedy and able to face any kind of weather—such boats as Mavourneen.

Mayflower—A Cup Racer That the Ocean Claimed

THE FAMOUS SLOOP THAT TWENTY-FIVE YEARS AGO DEFENDED THE AMERICA'S CUP ENDED HER DAYS WHILE ON A SEARCH FOR SUNKEN TREASURE. EVENTFUL CAREER OF THE OLD BOAT.

By LAWRENCE PERRY

SOMEWHERE out on the bottom of the lonely Atlantic a yacht of glowing memory sleeps the long sleep. Somehow of all yachts that have raced for and won the America's Cup the end of Mayflower, which in September, 1886, met and defeated Lieut. Henn's Galatea in two straight races, seems most fitting. The winds to which she first spread her wings, the waves that she then breasted exalted her eventually as the center of a struggle as old as ocean is old, and yet ever fresh and ever thrilling; and then as she yielded, they claimed her as their own.

Dismasted, wallowing, flailing, water-sodden, abandoned by her crew, the elements took her and sent her on her silent course, in the grip of the coastwise currents. It may be that for months she swung along on her sullen derelict's journey, a part of things elemental, a witness of the inception of great tempests and of things which the great deep alone knows, which man may never see. Or, haply, she may speedily have taken the long dive to that bourne whence ships do not return.

There is, as suggested, a fitness in all this not unrecognized by poets, by Oliver Wendell Holmes least of all, who as everyone knows sang of Old Ironsides:

"Nail to her mast the holy flag,
Set every threadbare sail
And give her to the Gods of storm,
The lightning and the gale."

That Mayflower had stood the wrack of the years was evidenced by the fact that in the summer of 1908 a group of Harvard and Yale graduates selected her as the vessel upon which to cruise to the West Indies in search of treasure reposing in the hold of the ship Plymouth, sunk in the seventeenth century. She was laden with supplies calculated to add to the comfort of the adventurers, which made the old shellbacks at the South Brooklyn shipyard stare, and passed out through the Narrows on September 19, 1908. She made a southern port without incident and put in for supplies whence was sent north the gallant message:

"We will return north laden with gold—or experience."

Not many days later the treasure ship was off Watlings Island fighting bravely for her life. She drove along under shortened canvas for three days and then the wind and waves utterly bore her down. Her masts were cut away to prevent her going on her beam ends and the men lying along her deck waited for what seemed inevitable death. At just the proper time the Norwegian steamship Dumois came up and the treasure hunters were taken off in small boats. The Mayflower was left alone. She has never been seen since.

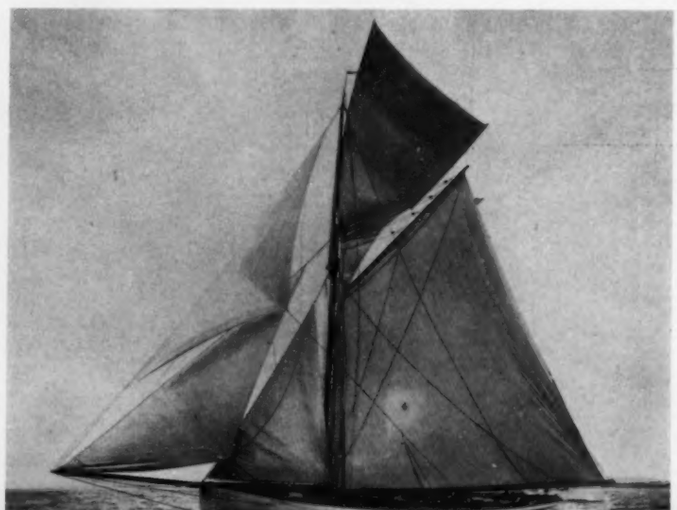


Photo by N. L. Stebbins.

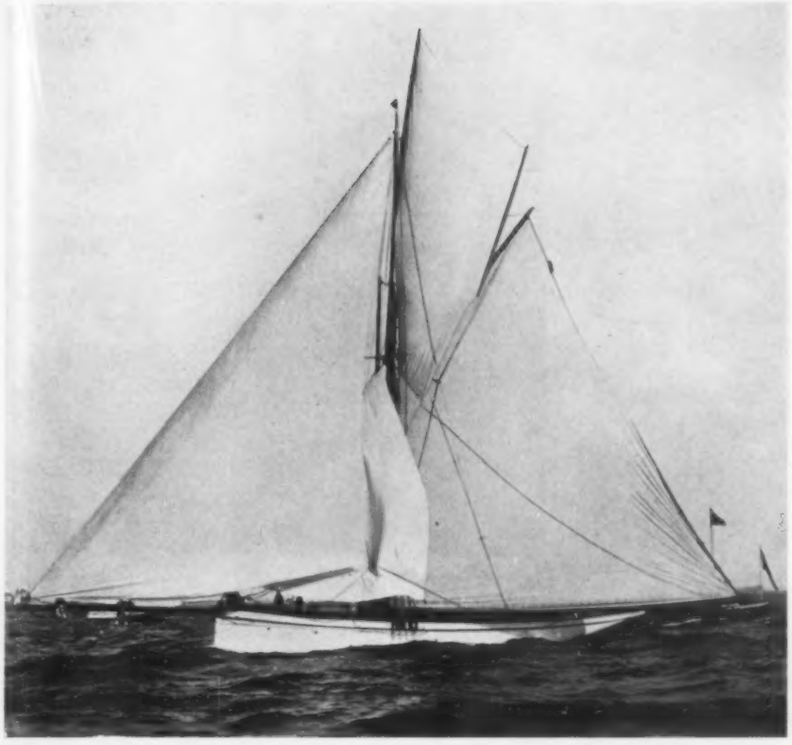
MAYFLOWER, AS SHE APPEARED IN THE AMERICA'S CUP TRIAL RACES.

Lest memories of what she was be swallowed, as time goes on, in the dramatic conclusion of her career a recital of the events of her more successful days is not out of place. It will be remembered that in 1884, J. Beaver Webb, of England, had challenged for the America's Cup, naming Genesta as the first challenger and Galatea as a supplementary challenger in event of the first named yacht failing in her contest against the American defender. It will also be recalled that the New York Yacht Club declined—politely—saying that the challenge for Genesta would be accepted and if she failed to lift the Cup a challenge for Galatea would be accepted the following year. Genesta did not take the Cup and accordingly when the Puritan-Genesta races were over in 1885, the New York Yacht Club took up the Galatea matter. No trouble arose over the arrangement of the races, which were practically the same as those of the preceding year.

Gen. Charles J. Paine of Boston, again came forward with a defender, this time assuming all the expenses incident to her construction and fitting out. She was designed by E. Burgess, built by Lawley and christened Mayflower. She suggested Puritan in appearance but the practised eyes of the shellbacks noted that her bow was longer and more full. She was of the centerboard type and was built mainly of wood, being 99½ feet long over all, 85 feet on the water, 23½ feet beam and drew 10 feet of water. Capt. Martin Stone, of Swampscott was selected as the skipper, but his first efforts as her sailing master were handicapped by structural defects of a minor sort which prevented him from bringing out all that there was in the new craft.

This resulted in three straight defeats by the Puritan, which seemed determined to hold to the laurels she had earned the year before in the international race. Naturally the public lost no time in condemning the boat and there were few, even among yachtsmen, who did not at least hold some semblance of an idea that Puritan must again be called upon to uphold the national prestige. But, undismayed, the skipper and owner of the Mayflower kept plugging away at her, trying her out day after day off Marblehead under all sorts of conditions until they were satisfied that when the final preliminary tests came she would be found worthy of defending the Cup. This proved to be the case.

On the New York Yacht Club cruise she defeated her rival Puritan, the old Priscilla and the Atlantic, a Cup defender built by a syndicate of the Atlantic Yacht Club. Atlantic never justified the hopes of her owners and was in no sense a worthy rival



GALATEA, THE ENGLISH CUTTER WHICH WAS DEFEATED BY MAYFLOWER.

of the Boston boat. While the New York Yacht Club fleet was resting in Buzzard's Bay, the challenger Galatea arrived in the harbor after a leisurely trip of 31 days from England. Lieut. Henn and his wife were aboard, and naturally the yacht was the center of great interest on the part of the yachtsmen assembled.

Her appearance was not such as to justify fears that she would win the Cup. Larger than Genesta, she did not have the fine lines of that cutter and indeed, suggested a vessel more suited for cruising than for winning cups against the best output of America. Neither was her record abroad of a nature to justify the highest hopes of her well wishers. Before leaving for the United States she had sailed in some dozen races and had not taken a single first prize; so she in no sense was to be regarded as the most eligible yacht for this contest.

However, the plans of the Americans proceeded apace. The trial races in which Mayflower, Puritan, Priscilla and Atlantic participated were sailed in August. The first was over the New York Yacht Club "inside course" of 38 miles. In a light wind, Mayflower distanced her closest competitor, Atlantic, by more than 10 minutes. The second race was to windward 15 miles and leeward 15 miles from the Sandy Hook light vessel. There was a 20-knot wind and Mayflower defeated Puritan, the second boat, by 3 minutes and 47 seconds.

The cup race series began on Sept. 7th over the "inside course" from Owl's Head in the Upper Bay, down through the Narrows, out to sea and return. There was a light south wind and the American public, stirred to high pitch over the victory of the season before and hopes for the present, went down to the sea in a great fleet of tugs and excursion boats. Galatea got the advantage of the start, going over the line on the starboard tack about a second ahead of the American boat, which also crossed to starboard.

By the time the racers had got close to the Bay Ridge shore in New York's lower bay, however, the Mayflower had revealed her superior footing ability and had nosed about a hundred feet ahead. Three-quarters of an hour after the start Galatea was nearly a quarter of a mile astern, some of the loss being due to her being obliged to pass to leeward of a big schooner anchored in the bay.

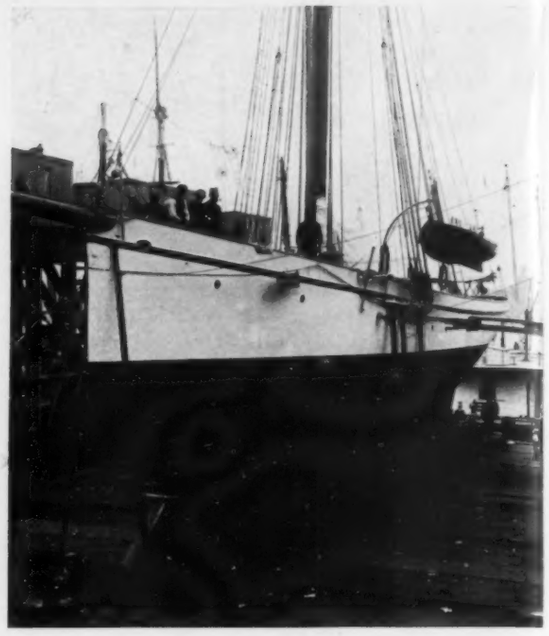
Mayflower passed out through the Narrows still about a quarter of a mile in the lead, having held her advantage through a series of short tacks. She made the Sandy Hook Lightship at 2:35 and Galatea rounded this vessel at 2:44. Mayflower finished at 4:22 and Galatea at 4:35, the race going to Mayflower by 12 minutes and 2 seconds corrected time.

The yachts met a second time on Sept. 9th, the start being made in a light wind which did not serve to drive either racer over the course within the time limit. Mayflower, however, was well in the lead when the race was called off. The final race was sailed two days later, Sept. 11th. The course was a leeward and windward one, 20 miles to a leg. Lieut. Henn was ill on board the challenger and he wrote to the cup committee asking that the course be shortened from 40 to 30 miles. His condition required the attention of a physician, he said, and he desired that the race be ended as quickly as possible so that he might put himself the earlier under medical care. But his request was refused, the committee holding that it had no power to change the conditions. Lieut. Henn took the decision in good part, which indeed was consonant with his personality, being a thorough sportsman and a thorough good fellow who was sailing not so much for cups and for glory as for the pleasure of the game.

Photo by N. L. Stebbins.

MAYFLOWER BEING TOWED TO THE LINE IN ONE OF THE INTERNATIONAL RACES. POT-LEADING WAS THEN IN VOGUE, WHICH ACCOUNTS FOR THE PECULIAR WAY IN WHICH SHE IS PAINTED.

MAYFLOWER IN DRY DOCK.

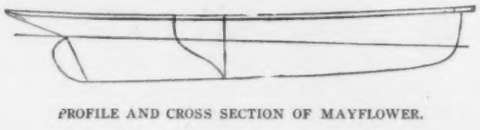


GALATEA IN DRY DOCK.

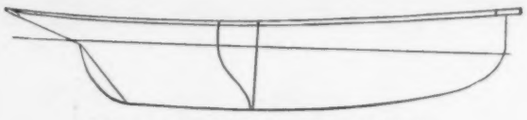
The course was the same as that upon which the fluke of Sept. 9th occurred. Mayflower got away first with Galatea at least a minute behind. Mayflower was carrying all sail for going before the wind and outfooted the challenger, which did not have her balloon jib set. Mayflower jibed around the outer mark at 1:55:05 and Galatea went around at 2:10:20. At one time on the beat home Mayflower was at least 2 miles in the lead. Then, when standing close to the Jersey shore, the wind fell to less than 4 knots and both boats fell off in headway. The challenger was later sufficiently fortunate to catch several catspaw breezes which wafted her closer to the defender. But Mayflower always caught them in good time and drew away again. Eventually, after several hours of alternate calms and light breezes Mayflower practically drifted across the line with but 11 minutes of her time limit of 7 hours remaining. Mayflower finished at 6:11:40 and Galatea at 6:42:58, the former winning by over 29 minutes. Lieut. Henn took his defeat in the best manner, and never for a moment complained of the conditions which had given his boat two races in light airs, whereas heavy weather sailing was her strong point.

Lieut. Henn did not take his boat home immediately. In fact he kept her here racing for two years and while he did not win many

(Continued on p. 400)



PROFILE AND CROSS SECTION OF MAYFLOWER.



PROFILE AND CROSS SECTION OF GALATEA.

MAYFLOWER AS SHE LOOKED UNDER SCHOONER RIG.

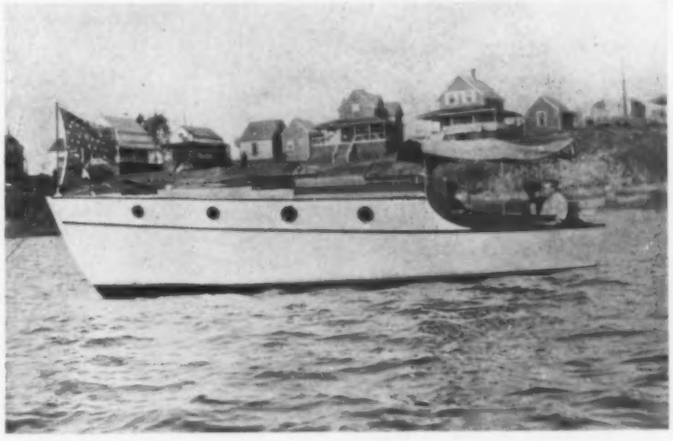
How I Built a 27-Foot V-Bottom Power Cruiser

By F. R. WATERMAN

Drawings and Photographs by the Author

"CAN an amateur, without any previous experience as a boat builder or carpenter, build a boat?" is a question that is often asked by those who feel that they would like to try this method of becoming the owner of a craft, and yet doubt their ability to put one together. In answer to this I would say, "Yes." One should have, however, perseverance and should not get discouraged by any of the difficulties which may confront him; and he should never for a moment let himself think that he can not do it. Some one once asked me before I built my first boat if I thought I could carry it through, and in reply I told them that the fact of not being able to build it had not entered my mind. One should, however, have had some experience in the use of tools and should know how to handle them.

The boat I am about to describe, and which I built myself, was made direct from the plans and not from a knock-down frame. Our requirements called for a boat of not less than 25 feet nor more than 30 feet long and from 7 to 8 feet of beam, with as large a cabin as possible. As our pocketbook was limited we had to make every dollar count, and in figuring, we found that a boat 30 feet long would cost too much, while one under 25 feet would be too small. I had found, by experience, that there is a great difference between the actions of a 23-foot and a 27-foot boat, in rough water. A choppy sea that was too much for a 23-footer would not bother a 27-footer, as the latter would often span the waves.



THE 27-FOOT CRUISER AS SHE LOOKED WHEN FINISHED.

After studying very closely the plans of cabin boats published in YACHTING and the other boating papers, and picking out the good points in each design, we tried to combine them in one boat, and during the winter months I made a great many sketches showing the style of cabin and the interior arrangement that we desired. We finally decided on a boat 27 feet in length by 7 feet beam by 2½ feet draft, of the V-bottom type, as I consider this type very much easier for the amateur to build. We wanted a boat to live on and speed was not an essential, but as it turned out we got both comfort and speed in the craft. And let me also say here that the V-bottom type cannot be beaten for easy driving and seagoing ability.

The head room was the biggest problem we had to meet, as we wanted all the boat would stand without spoiling her looks. After making a number of drawings we found that 5 feet 6 inches was all we could get, and even then, to prevent the boat from looking topheavy, 12 inches of crown was given to the cabin roof. The stern was an inverted "V," as it gave more room for a stern cross seat, the one in my boat measuring 4 feet 6 inches across.

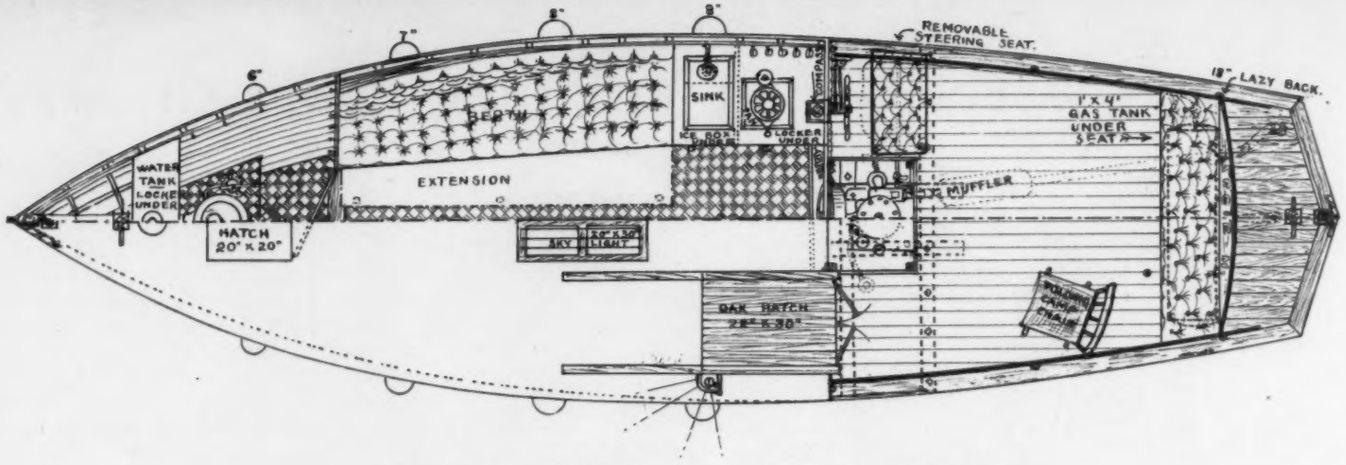
The plan I finally picked out did not have the required head room so I raised the sheer line 3 inches at the bow, and as the cabin line was straight I also raised that 3 inches at the bow, making the cabin side planking 3 inches wider. Here was 3 inches gained, and as the plan had a 9-inch crown to the roof, I gave it 12 inches, which was another 3 inches head room gained. As I thus raised the bow and crown each 3 inches it will be seen that I did not alter the roof line. Be sure that the top of the roof does not slope toward the bow; it should be at least parallel with the waterline and had better slant slightly toward the stern. To have it slant towards the bow makes a boat look as if she were going to do a submarine act.

The interior plan we changed a great many times. As finally decided upon, the toilet room partition was placed 7 feet from the bow. The first 3 feet was taken up by the Samson post and water tank with a locker underneath, leaving 4 feet for the toilet room. Then came the main cabin with transom berths, 6 feet 6 inches long on each side. The entrance was on the port side, while on the starboard side aft of the transom was a sink and stove space 3 feet 6 inches long, with a closet and ice box underneath. The cockpit was 8 feet long and the stern deck 2 feet. The engine was placed in the cockpit close to the cabin bulkhead, with the flywheel just inside the cabin to allow easy starting.

It is very important to get the shaft line of the boat in the proper place. In this case I took one-half the diameter of the flywheel, which was 9 inches, and allowing 3 inches clearance under it, it gave me a point for the inboard end 12 inches above the keel. The outboard end, of course, came in the center of the deadwood. I first made sure that the deadwood was deep enough to allow clearance for a 22-inch propeller, this being as large as we knew the boat could stand. This is something that the builder wants to be sure of before starting, as I have seen boats where there was not enough room allowed to clear the propeller that the boat was to use. I once saw a boat finished and when they went to put on the propeller there was not room under the stern in which it could turn, and the builders had to lengthen the shaft and cut away under the stern to make clearance. In another case, there was not room to clear the iron skeg and an off-set had to be made in the latter. If you find on your plan that you have not enough room, the deadwood can be deepened, which will allow you to drop the shaft line at that point.

The only time I had to build this boat was before 7 o'clock in the morning and after 5:30 p.m. as long as daylight lasted, with only two Sundays out of three; yet the keel was landed in my yard, where I built the boat, on April 3rd, and the boat was launched July 16th. I had outside help on the frame and engine bed, though the rest I did alone.

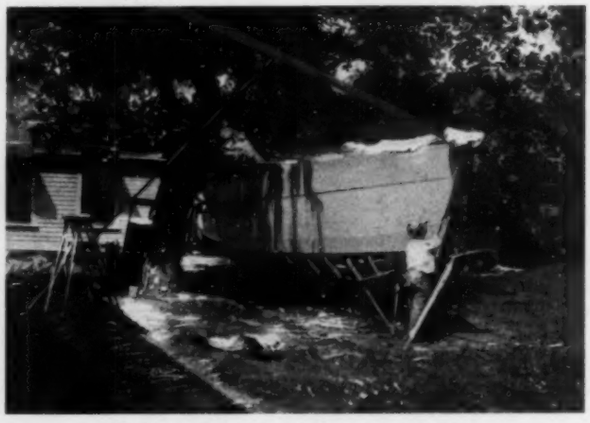
After getting my plans together, and making patterns for all the heavy stuff, which was of oak, such as keel, stem, deadwood, engine bed, etc., I sent these patterns to a mill to have the stuff



Arrangement of "V" Bottom, 27'x7' Cruiser, by F.R.Waterman.

sawed out, as most of it was 3 inches thick. When they came back from the mill I gave them all a coat of raw oil, in fact, every piece of oak in the boat received from one to two coats of oil as soon as it was landed in my yard.

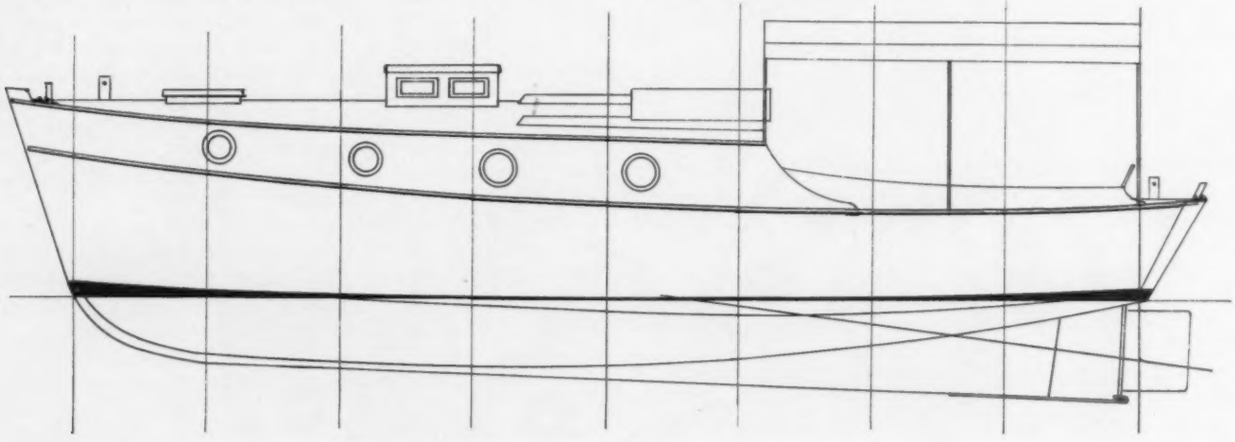
The first thing I did was to cut the rabbet line on keel and stem. To get the proper angle and shape of this rabbet line I made a paper template from the plan of the rabbet angle, as shown in the sketch, Fig. 1. This gave me the shape of the rabbet at each section. Cutting out the rabbet at each station as shown on the template was then a simple matter. To make sure of its being right, I cut off a small piece of planking and by setting this piece in the rabbet and seeing that it lay at the angle marked on the template, I saved a lot of hard work after the keel was set up, as this was done while the keel was lying on horses.



HOW THE BOAT WAS SET UP FOR BUILDING.

The next thing was the fastening of keel and deadwood together. Some builders use drift pins for this; that is, rods driven into tight-fitting holes. I had some double-ended bolts made which I used instead. I clamped the keel and deadwood together and bored the holes according to the length of the bolts. At either end of these holes I cut out a square in the wood which gave me a chance to put on the nuts and screw them down. The nut on the bottom of the keel was counter-sunk flush, plastering on plenty of white lead at the joint to make it watertight when the nuts were turned up. When boring these bolt holes be careful not to bore into the shaft log. This shaft log I had bored by a boat builder as it takes a special sized bitt.

The next thing was the setting up of the keel. As this boat was built out of doors I first made sure that I had firm, level ground to build her on. As most amateurs in building a boat of this size will have difficulty getting a shed large enough to build in, they will probably have to build out of doors; and this is perfectly practicable, especially if the work is not carried on in very severe weather. After selecting a good level spot, I laid several heavy planks about 7 feet long upon the ground at right angles with the line of the keel. These planks were to set the blocking on which was to hold the keel, and gave a large bearing that was less liable to sink into the ground. On these blocks I placed the keel, and nailed a straight edge on it, parallel with the base line in the plan, and this made it very easy to level up the keel. I fastened this blocking together with nails and then nailed upright pieces on either side of the keel to prevent it from moving. I then bolted on the stern knee (which had been sawed



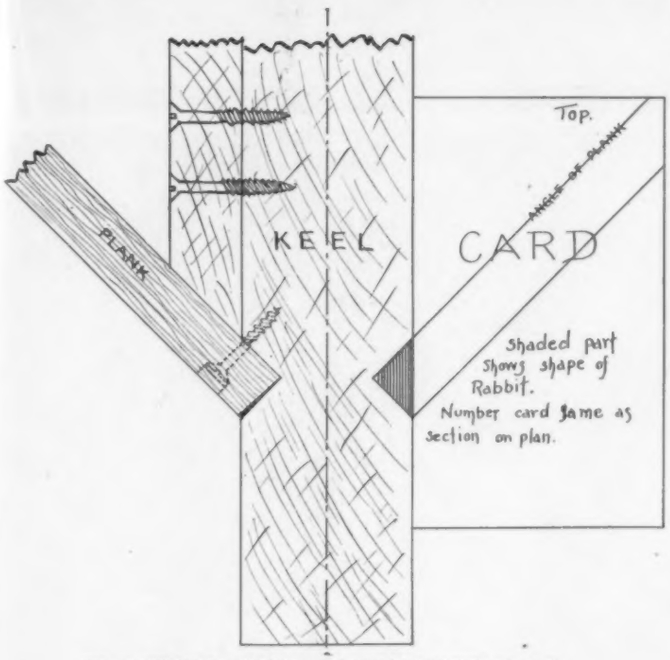


FIG. I, SHOWING TEMPLATE FOR CUTTING RABBET IN KEEL.

out at the mill) and screwed 3x4-inch pieces on the inside of it. From these 3x4-inch pieces I nailed braces to stakes driven in the ground to keep it steady. These 3x4-inch pieces were left on until I was ready to lay the deck.

The stem was then amped on plumb and was bored and bolted to the keel. I then nailed a long brace from the top of the stem to the house for support. Between the top of the 3x4-inch pieces at the stern, before mentioned, and the top of the stem, I nailed a 2x6-inch plank which was made long enough to reach from one to the other by splicing two planks together. This gave me a brace through the center to which to fasten the molds. This plank was braced and held up in the center by a 2x3-inch prop nailed to the keel. As the boat was built under a tree I then braced the stem, bow and center plank to this tree.

The molds were made of some spare boards that I had picked up. I thought they were strong enough but when I commenced to put in the timbers the strain was too much for them and I found that I had to keep nailing on additional braces. These molds should be made strong, and it is well to drive the nails through and clinch them on the other side, as the greatest trouble I had was with these nails pulling out. Be sure that both sides of the molds are alike and correspond with plan. This can be accomplished by laying down the body plan in the usual manner on a flat floor or, if building from regular plans, a full sized pattern can be obtained from the designer. I measured everything three or four times to make sure that it was correct and there was nothing on the boat that I had to make over. There is nothing so discouraging as to find, after getting some part done, that you have made a mistake in your measurements, and there is no place where the old saying, "be sure you are right and then go ahead," applies as much as it does in boat building.

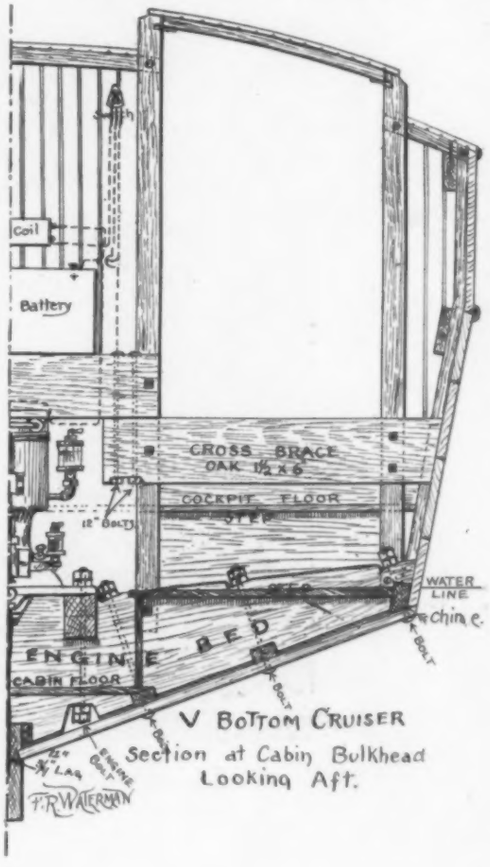
The stern board or transom was made of oak, two pieces on each side with a horizontal joint or seam. A cabinet maker made this joint for me as it was doweled and glued. It was quite a "fussy" job to fasten on this stern transom so that the ends were square across the keel and the "V" had the same angle on each side. After getting them into the right position, they were braced, secured and screwed to the stern piece.

The molds were next put in, first having marked out the stations on the keel where they were to come, and securely bracing them to the overhead planks, making sure they were on the proper marks and plumb with the center of the keel. A strip, or batten, was then nailed around these molds from the stem to the stern piece at the sheer line. Make sure that this sheer line has a fair, even curve before going on with the work.

A great many amateur builders get this sheer line uneven and when the half-round fender strip is put on, the unevenness is very evident. I looked this sheer strip over very carefully from all points until I was sure the curve could not be improved upon. Mark the line of this sheer batten on the molds and cut into the latter the depth and width of the clamp, which is the top stringer along the inside of the frame, as the molds represent the inside of the planking. Wherever the fore and aft stringers, such as the chine or bilge stringer, came on the stem, I screwed a 3-inch block to the inside of the stem and then screwed this stringer to both the block and stem piece. Where the stringers joined the stern board I screwed an oak board along the inside edge of the transom and mortised and fastened the stringers to this board and transom. The cabin stringers, clamps, chine, and fore and aft stringers were drawn into position at the stem by a large clamp and then mortised into the stem flush with the bottom of the rabbet, and screwed down. The larger clamps were left in place to hold the strain. There are two fore and aft stringers inside the bottom planking, between the chine and keel, so that each bottom plank (being put on cross-ways), was fastened in four places, at the chine, two stringers and keel.

The ribs or upright frames were mortised into the chine piece and the mortise well plastered with white lead before fastening on the ribs. All ribs were of clear oak 1¼x1⅛-inch, spaced 10 inches on centers. Each rib was first mortised and fastened into the chine, then bent outside of the clamp, and drawn into the cabin stringer. (See diagram.) Fasten the ribs to the cabin stringer first, then when you fasten them to the clamp they cannot straighten out.

Some builders use a rib from the chine to the clamp and a short piece from the clamp to cabin stringer. This method leaves a decided angle between the cabin board and side planking. By forcing them into place, as I did, the corner is done away with and a slight curve given to the sides, so that when the boat is



THE SPIRIT OC

RIT OCEAN RACING.

afloat it looks more like a round-bottom boat, and not so flat and angular. Be sure that the ribs are fastened securely. Don't bore the screw-holes too large but turn the screw in tight. All the framework was given two coats of white lead and oil before the planking was started, as the planking covers portions that cannot be painted later.

The next step was to put on the planking. This is probably the most interesting part of the job, particularly as you always have something to show for the time you spend upon it. The first plank to put on is at the chine or bilge on the side. This plank was of pine in one board 30 feet long. It was planed on a bevel at the bottom edge to allow the bottom planking to lap it, making a tight joint. I first measured the heighth of the side to determine the number of planks required, which on this boat was four. I divided the space at the stem and stern into four equal divisions, and then at every third rib, so that when I came to cut out the planking, instead of taking a spilling I clamped a plank into place and by working from the inside by the marks on the ribs, I cut the exact shape of the plank. After you have one plank on you can run a pencil along the top edge of this one, thus marking out the bottom edge of the next one to go on. The first plank I put on I had considerable trouble in fitting, but after that I found by planing exactly to the line I had marked I had no more trouble, and every plank fitted into place nicely. Where planks "butted" between ribs I would fasten the plank to the frame almost to the butt, letting one lap over the other. Then by the aid of clamps, I would draw them into shape, saw down through the two and they would come together at a tight joint. The butt blocks were 1¼-inch oak, fitted tight between the ribs, and the planks securely fastened to them.

FIG. 2, METHOD OF PUTTING IN RIBS.

The bottom of the boat was the hardest to plank. In the first place it is a hard position to work in, and if I were to build another boat I would set the lowest point of the keel at least 3 feet from the ground, as it is easier to put on the upper planking by standing on a staging across horses than it is to double your body up on the ground under the bottom. One or two grain bags filled with straw and laid on the ground will save the knees and improve the temper when working on the bottom. On this type of boat there is no garboard plank to bother with as the bottom planking goes across the boat. That is, they are short lengths running from the keel to the chine. This makes a much easier boat to plank than when they run fore and aft, as they are all straight edges and easily cut out. Boat builders also claim that this way of planking is stronger than longitudinal planks for this type of boat. After the boat has been used a season and the bottom planks get set they can then be smoothed off as easily as though the planks ran fore and aft.

In planking a boat, be sure that the joints or seams come tight on the inside and open about ⅛ of an inch on the outside, to take the caulking. In fastening the planks to the ribs, I used galvanized nails, clinched on the inside. Where there was no chance to do this I used brass screws. Every screw and nail hole was first bored for a ½-inch plug and then the hole itself was bored with a gimlet bitt. As soon as any of the planking was on, it was planed off smooth and given a coat of raw oil, as I was building out of doors and had no protection from the weather. (To be continued)

Pulled Through

BEING THE TRUE ACCOUNT OF A TRIP OF A 40-FOOT RACING SLOOP ACROSS LAKE ONTARIO IN A GALE OF WIND, IN TOW OF A 12-KNOT PASSENGER STEAMER.

By STINSON JARVIS

IT was blowing hard outside, a full gale from the westward, and the big, gray, white-topped seas were swinging down the Lake in a manner that forbade any attempt to show a nose outside, and that was why we waited inside the piers at Charlotte for three days. The big side-wheeler Abysinnian tried to get up the Lake on the first day of the storm, and from the top of the smelting-works we watched her buck the westerly seas for twelve miles. That was all she wanted. Then we saw her roll as she got headed back for Charlotte, and as she wallowed and yawed in between the two piers it was an even bet as to which of them she would hit. Some of her forward windows were in bad shape, and Captain Estes said he had never before known the water to break glass on the saloon deck. We also found lots of excitement when the schooners came running in for shelter under a squatted foresail.

Our sloop, the Brunette, of the Royal Canadian Yacht Club, had but recently been built for the special purpose of taking the Prince of Wales' Cup. This annual Toronto fixture was to be sailed on September 7th, and to be thus locked up, weather-bound, when there were only a few days for preparation before the race, made us all wild. On the afternoon of the third day the gale suddenly dropped out, and to the westward we could see nothing but the leaden rollers, and the banked sodden clouds that looked like herded elephants which might again stampede. However, this possibility did not prevent Harry Stinson from accepting the offer of a towline from the Abysinnian, and at seven o'clock in the evening we were flying out in the wake of the big mail steamer, our bows high, and our stern dragged down by the speed till the foam licked the rail.

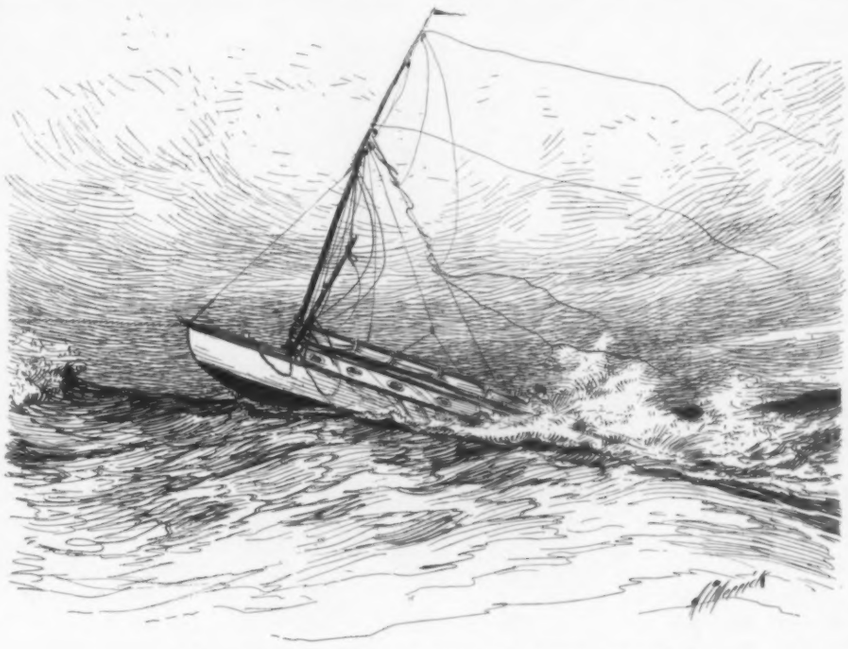
The hawser from the steamer had been brought in at the chocks and passed twice around the mast before being led to the bitts. It was a wise precaution. Half an hour out there seemed to be very little crockery on board that had not been smashed. It was black dark by nine o'clock, and the frequent sound of things smashing down below "kind of got on the nerves" when we were pulled from one sea into another and the water came sluicing aft in torrents. But Harry held on, thinking that this was the worst of it, and that the sea would soon go down. He was crazy to get back in time for the race, and as he was the owner, accepting no argument, there was nothing for us to do but make the best of it.

As I had to come on deck again at twelve, I now turned in "all standing" and had slept perhaps an hour when the loud crack of breaking timber brought me out on the double-quick. I found

hat the gale had come on again, dead ahead, but the two men at he stick did not know what had happened forward. The night vas too black to see anything except the two lanterns hung at the stern of the Abysinnian to aid our steering. Soon word came from forward, "The bowsprit's gone!" We carried a singie head rig, so when we lost the horn, there was no forestay to the stem, such as the cutter carries, and as the yacht whipped her mast backward, it had nothing but its own strength to keep it from breaking.

Now, this is no "pipe-dream" story of the artistic liar who gets paid so well. I want to tell practical yachtsmen of the practical difficulties which we experienced; and perhaps the bald recital of the facts will influence other D. F's. when they think of trying a rough passage behind a big steamer.

Apparently a swing of water, or perhaps a moment of bad steering, had allowed the tow line to get under the bobstay, which parted, so that the next fling of the mast and topmast pulled the horn upward and snapped it off like a carrot. This large stick was now in the water, acting like a battering-ram against the starboard bow, with the stowed jib still on it. It may be that the proper thing for us to have done was to have set up some kind of a forestay to keep the mast in. But as nothing could be seen except when the lantern was held close, and as the swash of water and the plunging made any kind of forward work difficult and dangerous, we were deterred; and it may be that under these conditions we did not think as well or as quickly as the Rockingchair fleet. We were fearful of having the light planking smashed by the banging bowsprit, as this seemed to be our chief danger. It certainly received our first attention.



"TEN LIVES DEPENDED ON THE STRENGTH OF THE TOW LINE."

There was no such thing as getting down to chop through the spliced wire bowsprit-shrouds and forestay, because we were being dragged through a tremendous head sea at the rate of ten miles an hour, and we could only touch the wreckage when it swung up to bang the yacht. So we took off the throat halyards from the gaff and made on to the bowsprit, to hoist the whole mass inboard. Two of us lay inside the starboard shrouds, one to hold the lantern, while the other watched his chance to get the hook inside a shackle on the end of the bowsprit. When this ticklish undertaking was at last successful, we hoisted the whole of the wreckage up the mast. The broken end of the big bowsprit was then lashed to the fife rail, and as the timber was elevated it swung all night on its broken end and hewed a hole almost through the deck before morning.

In the meantime, the men who were steering were momentarily expecting the mast to snap and fall on them. The Brunette did not carry gear for housing a topmast and, of course, we had the big racing spar walloping round just where it would do the most harm. All we could do was to set up the staysail halyards at the stem. That was all the forward support the mast received, and, strange to say, it held—the gear being new and strong. We ought to have set up more, but no man dared to work forward of the mast because he would have been washed off. What made the plunging worse was that both the topmast and lower-mast back-stays had been wrenched away at the deck. We did not know this till after daylight came, because everything like this that got loose at the deck streamed out high on the gale, and was found in the morning to have whipped round the topping-lifts. Therefore it must have been only the lifts and the peak halyards that prevented the mast from going out over the bows when the yacht was chucked, butt end first into one of the wall-sided waves.

The main boom had kicked its supporting crotch overboard as soon as we left Charlotte, and in order to take the strain off the mast, the lifts and peak-halyards were slacked to allow the stowed mainsail to rest on the cabin top. This trailed about ten feet of the racing boom in the water that boiled at our stern, but it probably saved the mast. A peculiarity of the situation was that we could not lash the boom down tight enough to keep it quiet, and every time the mast plunged forward, the heavy boom and wet sail would rise in the middle and then bang down on the cabin top, till we expected the roof to be crushed in. As we supposed the backstays to be in place, we did not understand this, but the fact was that the lifts and peak-halyards were supplying the only backstays.

All thought as to what might happen to the rigging was dispelled by the difficulty of keeping the Brunette afloat. The six guests in the after cabin had not done any sailing before coming on this fortnight cruise to the Thousand Islands, which we were trying to finish, and although they were not of much use in the handling of the craft, they stood to their buckets in great shape when it came to a question of bailing or sinking. Of the two alleged sailors forward, one was useful in a general way, and the peculiarity of the other was that he was able to cook well during any stage of drunkenness. Beyond a certain point in his drunkenness, perhaps to be designated solely in terms of liquid measurement, he was always abusive. For this he had been discharged at Rochester, and it was solely through good nature that Harry was giving him a free passage back to Canada. He had not assisted in the work with the wreckage and was supposed to be comfortably drunk in his bunk. The cabin doors had been closed to give an extra support to the cabin top under the banging boom, and we soon heard Billy thumping on the inside of the doors and cursing the owner for not pumping out the yacht. He probably had the liquor locker all to himself, and his language was something intense. Harry called through the panels, telling him to look at the well and see if there was any water in it.

This seemed to annoy the sailor, and his answer was, "You take your —— soul to hell! There ain't no well on this coffin.

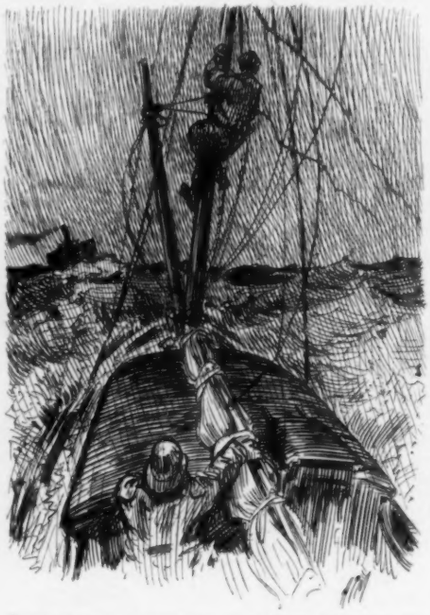
She's nuthin' but a lake down here." It was cheering information.

When we got the doors open we could hear the water inside rush aft as she settled by the stern and then swash toward the bows when she pitched forward. While the doors were closed the scream of the wind, the noise of the seas and the water on deck had prevented any inside sounds from being heard. But a glance at the interior, where it was ankle-deep over the cabin floor, showed that conditions called rather for buckets than pumps, and we got hurriedly to work with one bucket and a pail, a paint-pail, a large kettle and a two-handled dishpan. The two pumps in the cockpit were, of course, kept going, and the water from the pails was heaved out into the self-draining cockpit.

Now, to cut a long story short, I am not going to tell about the rest of that night, because it was nothing but a hard fight for life, and my poor words could never tell of the sweat and the toil of it. Everything came off but trousers and rubber shoes, and the steam from dead-tired bodies, working doggedly, filled the cabin; and in the dreary round some of them fell sick and vomited in the water they trudged in. It was no time for the white feather, or sick stomachs, or for giving up to any kind of weakness, and with clenched teeth they kept at it. The terrific pitching, as the Brunette was mercilessly dragged from one wave into another, without having time to ride them, gave us a motion that had no shape to it and threw the sick ones off their pins, while amid the roar of the wind and waters the rapid clanging of the pumps told of a desperate haste and put an edge on the senses like fire-bells of the city in the night.

At intervals during all this the drunken sailor, who certainly had a fine supply of liquor secreted in the forecastle, would appear, crouching in the low passageway that led to his bunk. Totally indifferent to everything, including his own danger, he was telling us things which he thought we ought to know.

"Now work, you slobs," he would say, "and try and save yerselves from goin' down to where ye belong. But ye won't! The water's comin' up on ye. I've got me mark on the water, and if ye work hard ye may last about three parts of an hour." This was partly true, because my own mark on the water had been covered about an inch.



"WHEN THE ABYSINNIAN YAWED ENOUGH TO ALLOW ME TO SEE I MADE OUT A DISTANT LIGHT."

At another time he appeared and remarked: "Yer just gettin' yer rights, when ye come out in a packin'-box that is shplit down her back. Now it shows that ye belong to the farm when ye wud pay good money for a boat that was shplit down the middle and just nailed together at the two ends."

When I could feel our shallow craft strain till the varnish or the molding seemed to crack on every side, and when it was certain that the calking was being worked clear of the seams, the drunken malice of his criticisms seemed to contain both truth and humor. The fact was that we never got ahead of the leaks and would inevitably have sunk had it not been that we were being dragged toward the western end of Lake Ontario, and thus into calmer water. Harry's idea was to signal the steamer and get taken on board; for the question of saving his yacht had been displaced by a more important question. He blazed off half a box of cartridges in trying to signal with his revolver, but he might as well have tried to signal to Pike's Peak. We were at the end of two long hawsers which had been joined, to give us the longest possible line, and the two men who, according to arrangement, were to remain at the stern of the Abysinnian to report any signalling from us, had been called off, because (as we afterward learned) the Abysinnian herself was leaking badly, and every available man was working on her own pumps. The question of cutting loose was abandoned because this course from Rochester (Charlotte) to Toronto took us right up the center of the Lake, with about thirty miles of water on each side of us; and the yacht was leaking so fast that if she had really sprung a plank we could not keep her afloat till we reached a harbor under sail or beached her on the nearest land.

In the way of fatigue there comes a time when a man feels that even to save his life he cannot work any more; and since the bowsprit snapped off about ten o'clock we had been at the heart-breaking work with the buckets for five hours and a half. It was now half past three, and as we had not been able to see the waters through which we were being towed, our speed was unknown, though as the captain of the Abysinnian had promised to travel slowly, we supposed that we were still in about the center of the Lake. Two of the guests had fainted from overwork and sickness, and I won't say that anybody had a hope for his life. But there was just a chance that the speed of the towing had been greater than we thought, and without wishing to raise any false hopes, I slipped out and climbed along the boom, took a halyard to assist, and dragged myself up the mast about ten feet. When the Abysinnian yawed enough to allow me to see it, there was a distant light showing—a trifle to starboard of her course. I took a long look at it, to make sure, and then slid from the cabin, saying, "Boys, we've got Toronto Light."

Nobody replied except one of the guests, who gravely said, "Jarvis, this is no time for joking!"

"I am not joking. I was born in sight of that light, and I know it when I see it."

But nobody believed me until Harry climbed the mast and came down beaming. "Help me open a gallon of champagne, old man. It's the only thing that will get these fellows back to work."

As we drank it out of tumblers, while standing in the cockpit, there came a flicker in the air as short as the pulling of a trigger, and we began to dimly see the white wave-tops. These first beginnings of weird light that seemed to come from nowhere diluted the ink of the night and soon showed the outline of the black mass that was swinging, yawing and pitching through the waters ahead of us, while the two lanterns at her stern looked yellow. Everything else, except the white tops of the surges, was black, but soon we were able to see the peculiar slant of the mast that had whipped over our heads all night, the tangle of everything that had twisted round the topping-lifts, and the canvas that dragged in the foam behind. I have tried to produce from memory a pen sketch to give some idea of the Brunette's appearance as she pulled through from the ordeal with every loose end streaming out straight on the gale.

After we reached Toronto Bay, still heavy with water, we let go the towline, and when opposite the anchorages of the Royal Canadian Yacht Club, our hook; and then a drawn and haggard collection, a drooping, speechless and ragged gang, just dropped anywhere and slept.

But we did not get into the race that had lured us into all this trouble, as it took some days to repair the damage of the pounding.

Muffler and Exhaust Piping

VARIOUS METHODS OF INSTALLING EXHAUST SYSTEMS TO SECURE SAFETY AND QUIET RUNNING. MUFFLING SYSTEMS MAY BE HAD THAT WILL STIFLE THE NOISY EXHAUST WITHOUT HURTING THE EFFICIENCY OF THE ENGINE.

By WILBUR H. YOUNG.

IN many sections of the country there have recently been passed stringent laws directed against the loud popping of the open exhaust of the internal combustion engines installed in motor boats. That these laws are just, those who live along the shores of the bays and rivers frequented by motor boats can testify, for the needless noise has become more and more unbearable as the number of boats grew. Especially is this the case since the introduction of high-powered engines in speed boats has become more general.

With the improvements that have been made in noise stifling devices in the last few years this noise is unnecessary, and all internal combustion engines should be equipped with some sort of muffler. In a speed boat a cut-out can be installed which will permit of discharging the gases directly into the atmosphere during a race, although hardly any back pressure, and consequent reduction of the revolutions of the motor, are noticeable if a muffling system is properly installed.

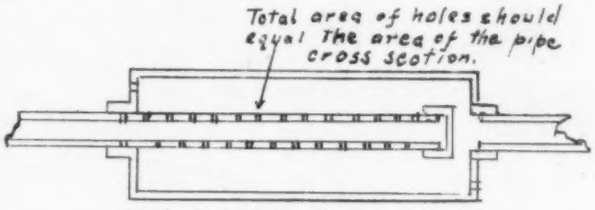


Fig. 1. Sectional view of one form of dry muffler.

There seem to be almost as many opinions regarding the correct method of putting in exhaust systems and mufflers as there are motor-boat owners, yet the methods described in this article are the result of close observation of many different installations, extending over a period of years, and each one of them has been tried and found to give satisfaction.

A 2-cycle motor of the same bore and stroke as a 4-cycle motor necessarily makes more noise. In the 4-cycle type the exhaust is discharged during a complete cycle, or stroke, of the piston, whereas the 2-cycle engine has only a fractional part of the stroke during which the port is uncovered, consequently the speed of the exhaust gases is much greater in the latter case, and it is thus more essential that the exhaust system of a 2-cycle engine should be under a minimum amount of back pressure; otherwise the burned gases will not be entirely removed from the cylinder and the amount of new gas entering for the next impulse will be consequently decreased. In the 4-cycle motor the gas is burned, and when the piston reaches the bottom of its stroke the exhaust valves are lifted and this gas discharged in part by the remaining pressure due to the expansion of the burning, while the remainder is forced out by the return of the piston to the top of its next stroke.

If the gases are discharged directly into the atmosphere from either type of motor the sudden rush from the end of the exhaust pipe produces a vacuum which the atmospheric pressure tends to fill immediately, resulting in a noise proportionate to the speed and volume of the exhaust gases. It thus becomes necessary to devise some method of allowing a gradual expansion and discharge of the gas.

During the past three or four years there have been placed on the market a number of noiseless devices for which claims of "No Back Pressure"—"Increased Revolutions"—etc., have been made, the majority of these working upon the theory of reducing the volume of the gas before discharging into the atmosphere. If the temperature of the gas is reduced, following the physical law, the volume is reduced proportionately, consequently if we introduce water into the exhaust line two desirable results are produced, viz: reduction of the volume, and cooling the exhaust pipe so it may be passed through the boat in contact with the woodwork without danger of burning or charring.

As a general rule a muffler should have a capacity of about five times the volume of one of the engine cylinders, with an increase of 10 per cent. in volume for each additional cylinder. Thus, a 4-cylinder motor of 5 inches bore by 5 inches stroke has a cylinder volume of 98.2 cubic inches per cylinder, and suitable muffler would have 491 cubic inches plus 49 cubic inches for each of the other three cylinders, or a total of 638 cubic inches capacity. This would require a muffler about 6 inches in diameter by 23 inches in length, or 5½ inches in diameter by 26 inches in length, or 5 inches in diameter and 32 inches long. The exhaust line should not be less than 2 inches in diameter for this size cylinder. If the cooling water is piped to permit a portion of it discharging into the exhaust line, and the balance overboard with a valve in each side to regulate the quantity, this muffler will need no baffle plates.

If a dry muffler is to be used it should have about nine times

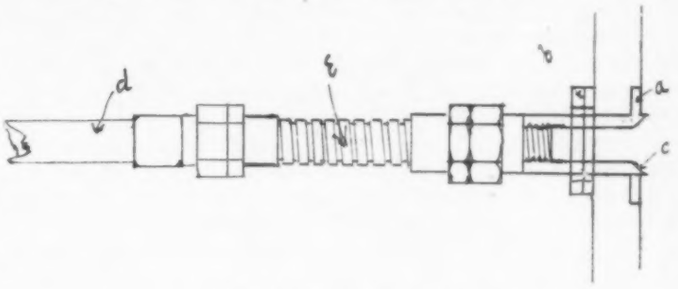


Fig. 2. Type of exhaust head.

the capacity of one of the cylinders with an additional volume of 10 per cent. for each additional cylinder. A set of baffle plates also will be necessary.

Fig. 1 shows a method of making a dry muffler that has been used very successfully, following the above proportions. This also makes a most excellent muffler where water is used.

Fig. 2 shows a method of muffling that has been used with excellent results by some of the largest boat builders in this country. This consists of a copper exhaust pipe (preferably one or two sizes larger than the size of the exhaust manifold on the engine), the size depending upon the length, so that the capacity is correctly proportioned. The copper pipe being in one piece and readily bent to shape makes a light and easily installed system. The cooling water is turned into the pipe aft of the engine and at a lower level than the exhaust manifold.

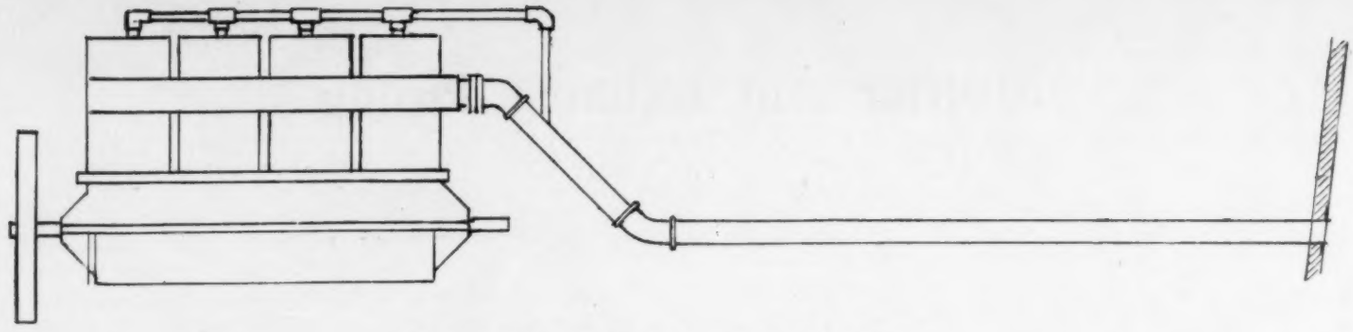


Fig. 2. Method of muffling using copper exhaust piping, water-cooled.

It is sometimes necessary to lead the exhaust directly overboard close to the engine, either above or below the water line. In such cases a muffler must be used when the discharge is above water, as such a short length of pipe has insufficient surface area to permit of the proper amount of reduction of temperature and volume. If the discharge is under water, a properly shaped terminal called an under-water exhaust should be used. (Fig. 4.) An expansion chamber also is necessary, otherwise the gases would not meet with sufficient amount of cooling surface and would cause a disagreeable pounding on the hull. This expansion chamber is required for 4-cycle engines in order to prevent the engine cylinders from filling with water in case the engine should back-fire and run in the wrong direction for a few revolutions. The same thing applies to the 2-cycle motor except that the water would not be drawn into the cylinders.

For the outboard connections a number of different styles of castings both in iron and in brass are on the market. One type of exhaust head—shown in Fig. 3—has been placed on the market and used very successfully. This consists of a brass fitting which is applied by simply cutting a hole in the transom or bottom of the boat. This hole is made the same size as the diameter of the fitting. The flange (a) is recessed into the planking and screwed fast. On the inside of the hull a washer is put next to the planking and a large nut (b) screwed on the fitting, drawing it up tight, making a water-tight joint. A lip (c) is cast into the fitting and projects far enough to carry the exhaust water, which will carry more or less dirty oil with it, beyond the planking. Connection between the exhaust head and the exhaust pipe (d) is made with a short piece of flexible copper tubing (e) especially adapted for this purpose.

There can also be had an under-water exhaust head, Fig. 4, which is installed in a similar manner. The under-water exhaust should be placed not more than 6 inches below the water line.

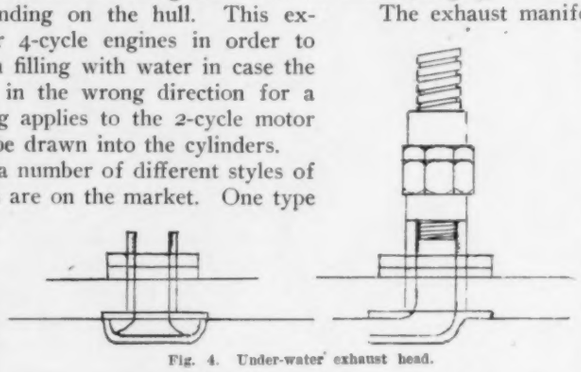


Fig. 4. Under-water exhaust head.

When the owner's purse and the installation permit it is well to use copper pipe for the exhaust line, as this can be bent in easy curves to conform to the space available, but where iron pipe is used easy curves can be made, as long as convenient, by the use of 45-degree elbows, nipples and short lengths of pipe. Two of these 45-degree elbows may be seen in Fig. No. 2. Swing unions, Fig. 5, can also be used to advantage.

The exhaust manifold on some makes of engines is flanged so as to permit of easy uncoupling, but where the manifold comes tapped only, a flange may be used as shown in Fig. 2. This permits the removal of the engine without disturbing the entire system of exhaust piping.

If the muffler is placed near the engine the cooling water can be piped so that a part of it passes into the muffler and the rest overboard, most mufflers being provided with a water inlet and outlet. When the muffler is below the water line and the end of the exhaust is only slightly above the water line so that there is a possibility of water running in and filling the muffler when the boat is at rest, it is well to install a drain cock at the lowest point of the exhaust line, which may be opened if it is found hard to start the motor with the water in the muffler. Care should be used to keep this cock closed at all times except when starting.

An excellent product in the shape of a flexible metal hose has been manufactured for several years and used very successfully for exhaust piping. This hose can be bent to any required shape, and in bending the curves are very easy, which is, of course, desirable. This hose is also made to carry gasolene. Suitable couplings for connecting this flexible hose to standard size pipe may be obtained, such as are shown in Fig. 6. The method of connecting is shown in Figures 3 and 4.

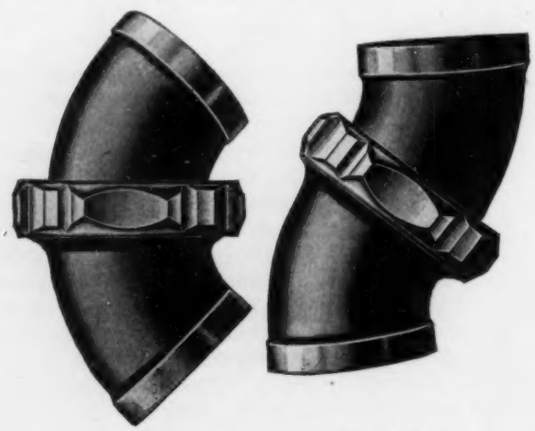


Fig. 5. Swing unions for exhaust lines.

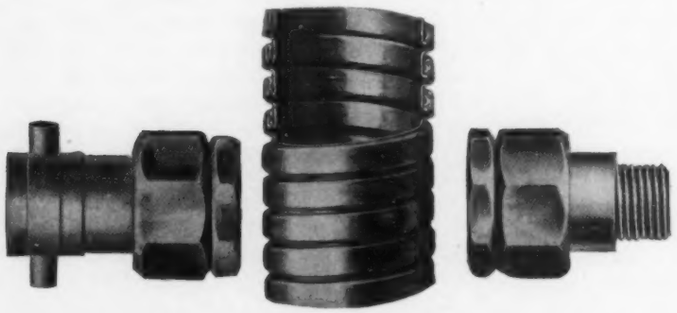


Fig. 6. Flexible metal hose and couplings for exhaust piping.

Harbor Sketching

A SIMPLE METHOD OF MAKING CHARTS OF UNFREQUENTED HARBORS OR ANCHORAGES THAT WILL BE RELIABLE AND USEFUL, WHERE GOVERNMENT CHARTS ON A LARGE SCALE ARE NOT OBTAINABLE.

By COMMANDER C. S. STANWORTH, U. S. Navy, Retired.

WITH many people the greatest charm of yachting lies in the independence of movement it offers, the freedom to forsake channels traversed by passenger steamers, and the ability to explore unfrequented waters where the charm of the unknown may bring the lure of adventure. Especially is this the case with motor boats of light draft but of strong construction, where occasional running aground only adds the spice of variety to the cruise.

Charts of unfrequented waters are generally on too small a scale to be of practical use as harbor charts, and any of us who has sailed knows of little nooks, too unimportant for a detailed chart, yet possessing some special attraction to yachtsmen. With the usual *camaraderie* of yachtsmen we let our friends know of our discoveries.

For this information to be of practical value it should be in the form of a sketch, showing shore line and anchorage and at least one line of soundings from deep water to the anchorage. These sketches can be made quickly and accurately, with little or no equipment, by a simple adaptation of the Plane Table.

The equipment required will be a light table or, preferably, a board of convenient size which you can mount on a camera tripod, and a pocket level for roughly levelling your board; a straight edge with two vertical pins for pointers, an ordinary rule with two pins stuck in will do; a 50-foot tape line, though an ordinary lead line will answer the purpose; paper, pencil, and thumb tacks, and four or five sticks which you can pick up along the beach, and to which can be tied the signal flags, or pieces of cloth for signals.

To make your sketch, set up your signals at salient points on the shore line and at the bottom of bights—provided there are no natural objects to sight on. Place two of these signals so that you can measure the distance between them. If they are along a beach you have no levelling to do and can measure with tape or lead line the distance between them. This will be your base line, and should be as long as is convenient. This measuring of a base is not necessary to make a correctly proportioned sketch, for if you can include in your sketch two objects shown on a regular chart you can take the distance between them from the chart, and determine your scale of distances.

Place your drawing board, with the paper tacked on it, over one of these base signals, roughly level it, sight along your straight edge laid on the paper to the other base and draw in a fairly heavy line, marking a spot on this line as the position of the signal you are then occupying. Stick a pin firmly through this spot and keeping your straight edge resting against the pin sight each of your other signals, or any prominent landmarks, tangents to the shore line, and draw in with light lines, marking each line with the name of its signal to identify it. (See Sketch No. 1.)

If you have measured a base, lay off the distance according to scale along the base line you have drawn, and mark the position of the second base signal. If you have not measured a base, assume a distance and mark it. Now, take your drawing board to this second base signal you have measured, or have assumed, set up your board as before, and with the straight edge lying along the heavy line, adjust board or paper until the straight edge points back to the first base mark or signal. Stick a pin in the paper at this second signal and again sight all of your signals, just as before (and any new points you may desire) and mark on the paper where they intersect the lines drawn from the first signal. These intersections give the positions of the signals visible from the ends of the base. (See Sketch No. 2.) As your base line is probably short, and some of your cuts are poor

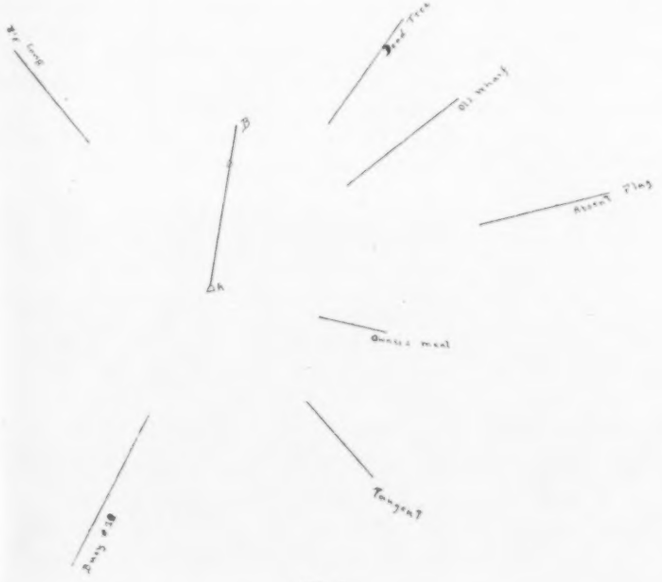


Fig. 1.

Fig. 2.

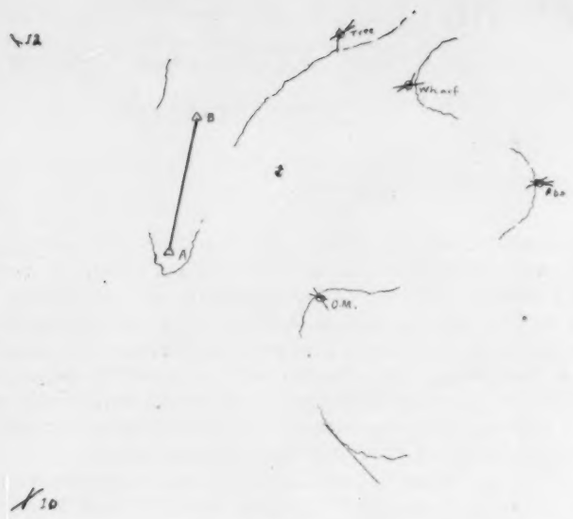


Fig. 3.

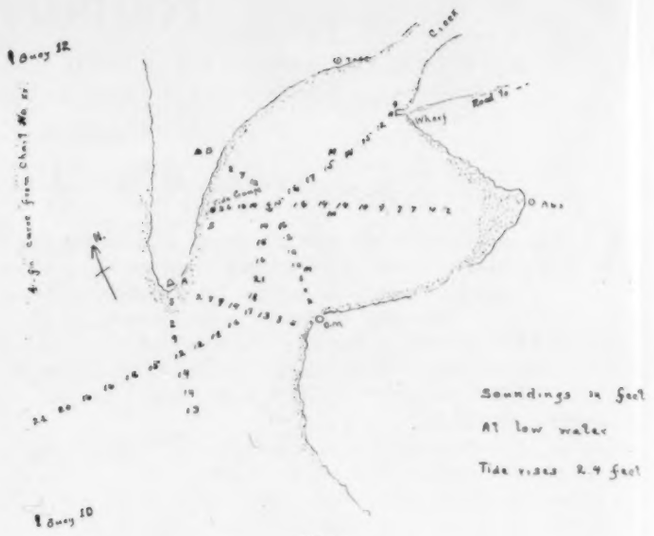


Fig. 4.

(angles too acute), take your board to some third position that gives good cuts, set it up again, sight back on one of the base signals, and take another round of sights. This will give a third cut on your signal points, and you can repeat this verification at other signals. Be sure to cut in the bow of your boat at her anchorage as one signal point to give correct location of anchorage ground.

Having a number of points located on the shore line it is an easy matter to sketch in the shore line, if necessary visiting each signal and sketching in its section. (See Sketch No. 3.)

To *orient* your sketch, take your compass ashore to some signal and take the bearing of some other signal, using one some distance off. Use a small scale on your sketch so that you can extend it to include some chartered navigation mark, such as a buoy, from which a stranger can take his departure and enter his course on your sketch.

When you leave your anchorage, note the level of the tide, run as few compass courses as possible, and take careful soundings out to deep water; reduce these to low water, and put them on your chart or sketch. If the channel coming in has definite turning points, you can locate them on your sketch by anchoring your boat or tender there and cutting her in from two convenient signals; or you can take bearings of three points on your sketch from these turning points. These bearings reversed, drawn from the known points of your sketch will give at their intersection a sufficiently close determination.

If the soundings are such that the tidal data is important, provide yourself with a narrow board longer than the range of the tide, mark it off in feet, and stick it in the bottom below low water mark, where you can read it with a glass from your boat. Note the lowest and highest readings, and the reading at the times you are sounding, and you can thus reduce your soundings to low water.

You may elaborate your sketch as much as you please, by putting in topographical detail, high and low water marks, and extra lines of soundings. A simple way of putting in extra sounding lines is to run radial lines from your anchorage; and these lines are the most important you can run, as they show the anchorage room.

Start out in your tender at a low, even rate of speed, heading toward some known object, such as your signals, and sound at even intervals of time, until you are in shallow water, when you can estimate your distance from shore. If you cross any ranges, mark that sounding for verification. Now on your sketch draw a line from your boat toward the signal, stopping at the estimated distance from the shore, and space your soundings evenly along this line. After you have run two or three lines towards definite objects, and seen how they are spaced, you can run lines by compass or back ranges from your anchorage toward the main channel. (See Sketch No. 4.)

Do not be tempted to use too large a scale, as you can easily enlarge it. A sketch on heavy typewriter paper, 8"x10", and a board large enough for this paper, is sufficient. After you have carried the board around to three or four signals you will appreciate the handy size.

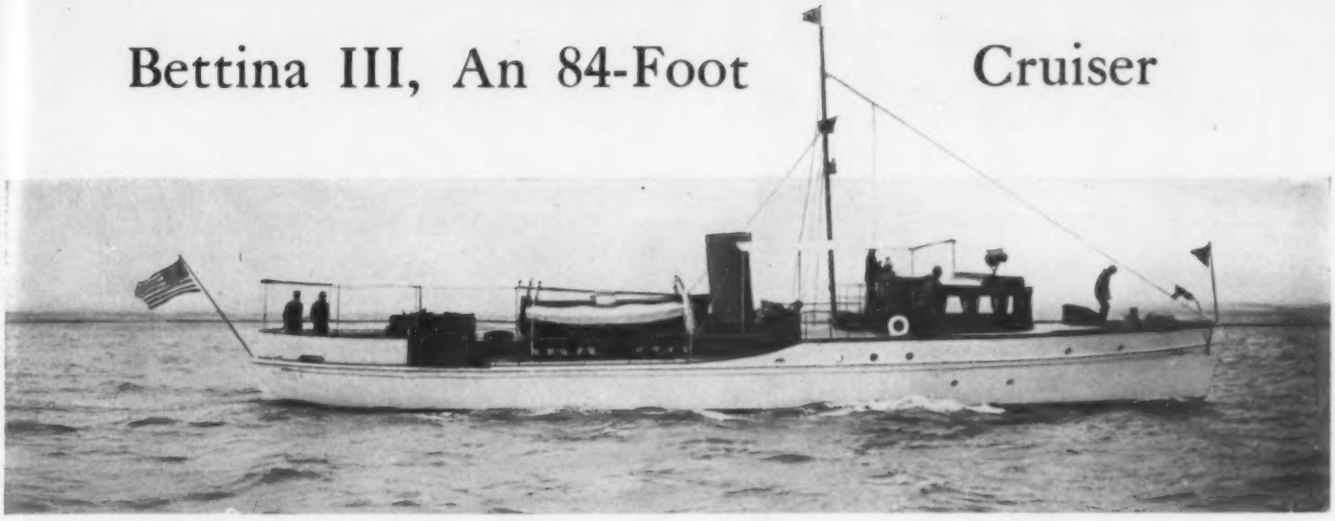
In selecting a scale, note the greatest distance you wish to embrace in your sketch, which we will say is 3 miles. A scale of 1 to 20,000 is about 3.6 inches to the nautical mile or 2000 yards; so we can take a scale of 1 to 30,000, which will be 2.4 inches to the nautical mile of 6080 feet, or roughly each tenth of an inch will represent 250 feet. If your sketch is to embrace as large an area as this, a base of 2500 feet would not be too long, and it would be well to extend the sketch so as to embrace two points shown on the regular chart, the distance between which we can use for a base.

However, most of our sketches will be of smaller areas and a shorter base will be sufficient. As I have said before, the measurement of a base is not necessary, and your sketch will be relatively correct if you guess at the distance between your first two signals; but in this case you can only give a guess at the scale, and your drawing is incomplete, though its value as a guide is great.

By using your yacht flags as signal flags, you can name your signals after the flag displayed there, and thus readily identify them. If there are any wharves, take a set of soundings around the wharf, but about 8 feet out, where the keel of a boat lying at the wharf would naturally come.

The completed sketch, or chart, as shown in figure No. 4, will be seen to be a very handy and useful guide and one that is sufficiently accurate for all uses to which it would be put by a yachtsman.

Bettina III, An 84-Foot Cruiser



IN the handsome cruising motor yacht Bettina III, owned by F. G. C. Lyon, Esq., of the New York Yacht Club, the Electric Launch Company of Bayonne, N. J., has turned out one of the finest and most comfortable cruising boats of the year. Mr. Lyon formerly owned the 62-footer Bettina II, but desiring a somewhat larger yacht with more accommodations he placed an order with the Electric Launch Co. last winter for this boat. Her length over all is 84 feet; beam 14 feet, and draft 4 feet.

The highest grade of Elco material was employed in the construction of the hull, with oak keel and frames, selected long leaf Oregon pine planking, fastened to oak frames with copper nails riveted over washers. The fastenings throughout the hull are of copper and bronze to withstand the corrosive action of salt water.

DINING SALOON.

As may be seen from the interior views which are shown, the cabin accommodations of the boat are most attractive. There is a large dining room on deck forward where eight or ten can dine comfortably around an extension mahogany table. A mahogany buffet is built in this room. The galley is located below deck with easy access to the saloon above. Below the dining room and forward deck are the crew's quarters, with a stateroom for the captain and berths for four men. The crew's quarters are equipped with lavatory and wash basins. The galley equipment is very complete, with a coal range, hot-water boiler, porcelain sink, closets and lockers and an icebox having a capacity of 400 pounds.

The engine room is directly aft of the crew's quarters and is separated from the forward and after quarters by watertight bulkheads. This room is unusually large and there is a 100-h.p. 6-cylinder, air-starting and reversing Standard engine installed which gives the yacht a speed of 14 miles an hour. The gasolene is stored in two large copper tanks, holding a total of 450 gallons. An electric light plant is installed in the engine room.

The owner's quarters are aft. They are reached from the deck by stairs on the starboard side leading to a lobby, which is comfortably arranged and equipped with two wicker chairs, large

SETTEES ON AFTER DECK.

LOBBY, AND STAIRS TO DECK.

BRIDGE DECK.

mahogany settee, desks and bookcase. Forward of the owner's quarters is a stateroom, which is unusually large and has two three-quarter berths, with drawers underneath, closet and lockers. Aft of this stateroom is another room, having two three-quarter berths, lavatory, closet and lockers. The bathroom is located between the two staterooms and has the usual yacht fixtures, porcelain washstand and large porcelain bath tub. The plumbing is installed in the latest Elco manner with hot and cold fresh water for all quarters, galley sink, and bath tub. In addition to the general plumbing, connection is made with sea water so that cold salt water can be drawn on a moment's notice. The water flows by gravity which is made possible by the Elco system of gravity tank, automatically filled by electric pumps.

The general finish of the owner's quarters is in white enamel with mahogany trim. The fittings and furnishings throughout these quarters are very handsome and are in keeping with the general trim. There is an unusual amount of deck space forward, and a large deck settee aft, upholstered in leather. The bridge deck from which the boat is steered, is very spacious and has room for a number of wicker chairs and a bridge settee. The engine exhaust is carried through a dummy stack on deck. The outside trim of deck houses is mahogany, the cabin being enclosed with plate glass windows that can be dropped or raised, affording the best ventilation throughout the boat. A powerful electric capstan is installed under the forward deck for handling the anchors. This is a most useful part of her equipment.

Mr. Lyons has cruised a long distance on the New England coast in the Bettina during the past season, and has had plenty of opportunity to test the seaworthiness of the yacht, and she has met his highest expectations.

Championship Winners of Long Island Sound Yacht Racing Association

THE "JEWEL" S CLASS ON LONG ISLAND SOUND. OPAL WAS THE WINNER.

Photographs by F. A. Walter and W. B. Jackson.

The racing season of 1911 on Long Island Sound was one of the most successful ever seen on this body of water. While it is true there were not many large boats in commission, hardly any class above the "P" rating filling in any regatta, yet the men who sail boats below that rating (and these constitute the real backbone of the sport) were out in force and their boats furnished some of the keenest and most enjoyable racing that has ever been held. The "P" Class was unusually well represented, there being two new boats of this rating built with the Manhasset Bay Challenge Cup in view. In addition to these, several of the Eastern "P" boats came around the Cape and took part in the racing on several occasions. The New York Yacht Club 30-foot class turned out in larger numbers than for several years, and the racing was all that could be desired. Among the smaller classes Hoyden had things pretty much her own way in the "R" Class, Hamburgh being her principal competitor, though the latter was not quite good enough to make things interesting for the Mower boat. Interest in the Larchmont inter-club class was also maintained and a large fleet of these boats turned out for every regatta. A new class of small boats, slightly larger than the Bug Class and called the Star Class, furnished good racing. There were 14 boats built to this measurement.

Mr. James W. Alker, Secretary of the Yacht Racing Association of Long Island Sound has figured up the percentages showing the winners of the championship in the various classes. We print below in tabulated form the standing of the various boats in the different classes, with the winners of each division.

CLASS P

Name.	Starts	1st	2nd	3rd	Per cent.
Joyant	15	6	4	5	72%
Corinthian	14	5	6	0	67%
Windward	13	3	3	6	60%
Cara Mia	6	2	1	0	did not qualify
Ediana	1	1	0	0	"
Zingara	1	0	1	0	"
Hyperion	1	0	0	1	"
Vagabond	1	0	0	0	"
Vida	1	0	0	0	"
Dorinda	1	0	1	0	"
Sayonara	2	0	1	1	"

Joyant wins.

ROWDY WAS CHAMPION OF THE N. Y. Y. C. 30-FOOT CLASS.

JOYANT, CHAMPION OF CLASS "P."

N. Y. Y. C. ONE-DESIGN CLASS

Name.	Starts	1st	2nd	3rd	Per cent.
Rowdy	14	4	5	1	77%
Phryne	13	1	1	3	70%
Nepsi	10	3	0	2	69%
Caprice	12	1	2	3	68%
Ibis	14	2	3	2	66%
Alera	14	2	2	1	61%
Juanita	15	1	0	1	52%
Dahinda	11	1	0	2	45%
Carlita	15	1	2	0	33%
Asthore	13	0	1	3	27%
Yolande	8	1	1	0	did not qualify
Carmelita	1	0	0	0	"
Nautilus	2	0	0	0	"

Rowdy wins.

AMERICAN RACEABOUTS

Name.	Starts	1st	2nd	3rd	Per cent.
Cliphora	12	12	0	0	100%
Maryola	8	0	7	1	did not qualify
Rascal	5	0	1	4	"

Cliphora wins.

CLASS R.

Name.	Starts	1st	2nd	3rd	Per cent.
Hoyden	14	12	2	0	97%
Hamburgh	11	0	6	1	42%
Pachita	2	2	0	0	did not qualify
Ogeemah	6	0	4	3	"
Dede II	7	4	0	0	"
Nereid	1	0	0	1	"
Virginia	10	0	2	3	"
Savtor	2	1	0	0	"

Hoyden wins.

MANHASSET BAY ONE-DESIGN TWENTIES

Name.	Starts	1st	2nd	3rd	Per cent.
Scylla	18	14	4	0	92%
Ardette	16	2	6	5	48%
Mille Boss	14	1	5	5	45%
Mohaska	2	1	1	0	did not qualify

Scylla wins.

LARCHMONT INTER CLUB.

Name.	Starts	1st	2nd	3rd	Per cent.
Yukan	12	3	3	4	77%
Wild Thyme	10	2	2	3	71%
Solas	12	4	4	1	70%
Festina	11	2	1	3	67%
Hamburgh II	12	2	1	1	58%
Lewanna	13	2	2	3	52%
Babette	8	0	0	1	did not qualify
Dagmar	9	0	1	1	"
Como	9	0	3	0	"
Le Cygne	9	1	1	1	"
Bella	1	0	0	0	"

Yukon wins.

CLASS S.

Name.	Starts	1st	2nd	3rd	Per cent.
Nereid	13	7	5	1	74%
Drena	9	4	4	1	did not qualify
Catseye	1	1	0	0	"
Midget	4	1	2	0	"
Opal	1	0	1	0	"
Scylla	1	1	0	0	"

Nereid wins.

STAR CLASS.

Name.	Starts	1st	2nd	3rd	Per cent.
Little Dipper	13	11	2	0	97%
Twinkle	10	1	6	2	91%
Snake	11	0	2	2	65%
Ceti	2	0	0	0	did not qualify
Gold Bug	2	0	1	0	"
Gemini	9	2	0	2	"
Faraway	8	2	0	1	"
Vega	10	1	3	0	"
Cynosure	5	1	2	0	"
Venus	4	0	0	1	"
Taurus	3	0	0	0	"
Leading Lady	2	0	0	0	"
Argos	4	0	0	2	"
Jenmasi	2	0	0	0	"

Little Dipper wins.

JEWEL S CLASS.

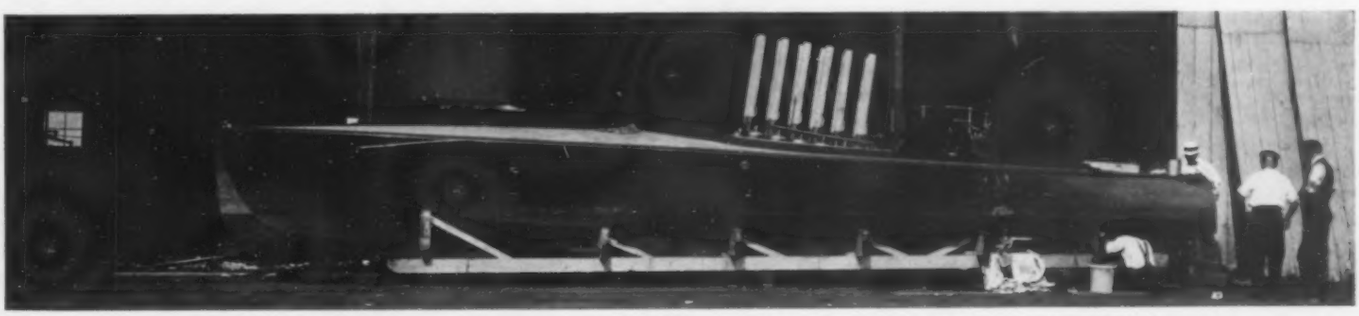
Name.	Starts	1st	2nd	3rd	Per cent.
Opal	10	5	2	2	85%
Jade	12	1	6	0	44%
Aquamarine	4	1	0	1	did not qualify
Garnet	4	0	0	1	"
Amethyst	3	0	0	1	"
Topaz	1	0	0	0	"
Moonstone	3	0	0	1	"
Turquoise	9	3	4	1	"
Brilliant	7	1	2	2	"
Catseye	7	1	0	1	"
Sapphire	5	2	0	1	"
Ruby	1	0	0	0	"

Opal wins.

MANHASSET BUG CLASS

Name.	Starts	1st	2nd	3rd	Per cent.
Iney	14	13	0	0	86%
Scarab	10	0	4	4	42%
Hornet	4	1	0	2	did not qualify
Skeeter	7	1	4	0	"
Big Bug	1	0	1	0	"
Wasp	1	0	0	1	"
May Fly	6	1	3	2	"

Iney wins.



HYDROPLANE VITA II, BUILT FOR THE B. I. TROPHY SERIES. UNFORTUNATELY SHE WAS NOT TUNED UP IN TIME.

Mixing Cylinder Oil With Gasolene for Lubricating Purposes

SOME OF THE ADVANTAGES WHICH THIS SYSTEM OF LUBRICATION OFFERS FOR A 2-CYCLE MOTOR, AND A LITTLE MORE LIGHT ON THE SUBJECT.

By C. VON CULIN.

MANY of those who have not given the method of lubricating an internal combustion engine through the gasolene supply a trial, or have not wasted much thought on the matter, are apt to condemn the system, believing that the oil in some way impairs the combustion of the gasolene and prevents one from getting a good mixture. This is a mistaken idea that should be corrected. Everyone admits that a certain amount of cylinder oil must be deposited in some way upon the walls of the cylinder if the engine is to run; and no matter what the method of lubrication, the oil is always present when combustion takes place. The best results, of course, are always obtained when just the right quantity of oil is used, and the more evenly this oil is distributed on the walls of the cylinder, the less it takes to fulfill its function.

Some five or six years ago, very few people thought of mixing cylinder oil with the gasolene for lubricating purposes; but at the present time it has become the common practice in 2-cycle engines, and in some localities is in almost universal use. It is thus reasonable to presume that there is merit in a system which has become so popular, and which has proved satisfactory to those who have tried it. While it is true that some of those who have tried it did not like it, this is not proof that the method is to blame, for some other condition of the outfit may have been responsible for their dissatisfaction.

This method of lubrication consists in mixing in the gasolene tank the required quantity of lubricating oil and drawing it into the cylinder with the intake of the fuel. For a 2-cycle engine a safe quantity of cylinder oil to use is one pint to five gallons of gasolene, mixing the two well before straining into the tank. With a new engine it is not safe to use any smaller proportion of oil. After you have gained some experience with the proper amount of oil that an engine needs, and the engine has been run some 200 miles, as small a quantity as one-half a pint of oil to five gallons of gasolene may be used with safety, though the cutting down of the proportion of oil should be governed by the ability of the operator to determine when he is getting too much oil and when he has just enough. It is safer to have a little too much than not to have enough, but do not think that because a little more oil than is necessary is safe, that a great deal more is better, for if you do, trouble is sure to follow. While too much oil will not damage the engine, it will affect the results, and is very likely to cause the engine to run badly and even stop. In other words, the system is good when all other conditions necessary to get good results are properly looked after every time the engine is used, and while this system may not be perfect, neither is any other system, unless care is used.

The principal advantage of mixing cylinder oil with gasolene is that it insures absolutely uniform lubrication of the cylinder, piston, wrist pin and connecting rod when the proper quantity of oil is used, the same quantity being taken into the cylinder at each revolution of the crank shaft. As the mixture is forced into the cylinder, the gasolene and air being in the form of a vapor and the oil of a mist, the gas is burned and the oil is distributed along the walls of the cylinder more evenly than is possible by any number of oil cups. It also requires much less oil to thoroughly distribute it to all parts of the walls of the cylinder than the other method, and when running the engine at high or low speed, the same quantity of oil is present at each revolution.

As the mixture passes through the crank case before going into the cylinder, the crank and connecting rod are also lubricated, although this does not prevent the use of oil in the base for splash lubrication; but should the latter be neglected, the oil in the gasolene will still take care of the connecting rod. Of course the main crank-shaft bearings must be oiled by grease cups or oilers in the usual way. Some engines are designed to partially lubricate the cylinder through the carburetor, while others lubricate it exclusively.

Having seen the action of this system, let us now see how the gravity, or mechanical oiler works. As in this method the oil is usually taken in on one side of the cylinder, in order to properly lubricate the opposite side almost double the quantity of oil is necessary, and even then the oil does not always get where it should. With a mechanical oiling system the regulation of oil must also be adjusted to the different speeds of the engine to get the best results and prevent trouble.

When cylinder oil has been thoroughly mixed with gasolene, it will remain suspended, and in order to separate it again it is necessary to either evaporate the gasolene or burn it, but a very small part of the oil being burned with the combustion of the gasolene. To prove this a test can be made by using the mixture in the above proportions in a gasolene stove and you will find that the oil will run down from the burner as the gasolene burns.

From the foregoing it must be admitted that less oil is used by this method and none is wasted, while less attention to the oiling system is required and the risk of not getting enough oil at all times, and possibly none at all at some time, is eliminated. With oil mixed with the gasolene one is never in danger of running out of cylinder oil, unless he also runs out of gasolene.

While as far as lubrication goes this system is a good one for a 2-cycle engine, yet it is not "fool-proof," or proof against trouble if other parts of the engine or its accessories are not kept in perfect order. No good engine will give the best results on a poorly kept equipment, no matter what oiling system is used, and it is necessary to have good coils, plugs, wires, switches and batteries, and to keep them in proper adjustment.

For example, let us suppose we have an engine of two or more cylinders, using oil in the gasolene and we find a continual missing on one of the cylinders, that may be caused by pitted or poorly adjusted vibrators, loose terminals, poor switches or something of the sort. In this case the oil in the gasolene will accumulate in the cylinder and finally short-circuit the spark plug. This is not the fault of the oiling system, and when it happens, the quickest and best way to remedy it is to wash out the cylinders with gasolene by removing the spark plug and using a squirt gun or squirt can against the walls of the cylinder and top of the piston, meanwhile cranking the engine to let the gasolene work down into the base. Draw this gasolene off through the drain cock in the crank case or with a squirt gun, rags, sponge, etc., through the handhole plate. Clear the spark plug and see that you have a good spark before replacing it. The engine will then start easily and continue to run as long as the ignition is all right, unless something else should happen, as is

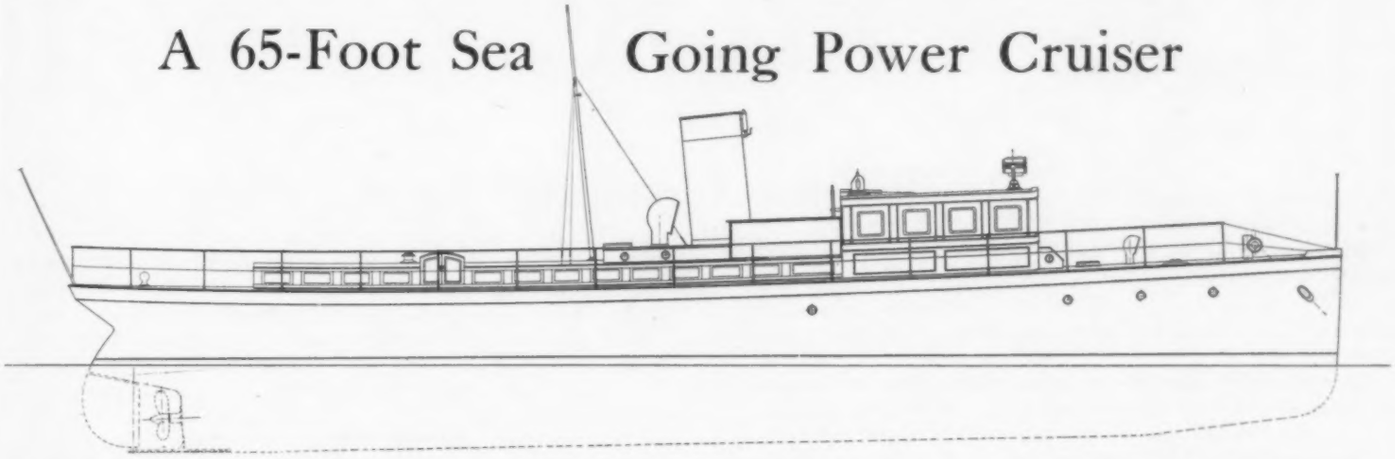
sometimes the case—such as the engine starting to back fire. This will probably occur only occasionally at first, and gradually become more frequent until the engine slows down or stops. This is usually caused by some obstruction in the gasolene pipe. On attempting to start the engine again it will be found that the accumulation of oil in the cylinder has short-circuited the spark plug. While the result is the same as misfiring the cause is entirely different.

Or again, while one cylinder may be firing regularly some of the others may be missing through a weak mixture until enough oil is deposited in the cylinder to short-circuit the spark plug, and while the cylinder may still fire occasionally while hot, after the engine has once been stopped it will be impossible to start without clearing the cylinder. These troubles, however, are not the fault of oil in the gasolene, but they do show that it is imperative to look closely to every part of the ignition and gas supply outfit to obtain good results. The same thing may frequently happen with any other oiling system; but when mechanical oilers are used in place of mixing the oil in gasolene, the oil may be turned off from the missing cylinder without flooding it, or at least long enough to work off the surplus without necessitating washing out the cylinder and crank case after the trouble has been located.

When the engine starts to miss, look first to the wiring, then to the vibrator timer, switch and terminals. When backfiring cannot be stopped by adjusting the carburetor, disconnect the gasolene pipe at the carburetor and blow back through the gasolene tank for a temporary remedy. No matter how confident you may be that there is nothing in the pipe you will generally find something there that you do not expect. Possibly you may not locate it at all but will merely blow it back into the tank.

If one would have two separate ignition outfits on his engine so as to be able to switch from one to the other, and also a large strainer next to the gasolene tank with two separate supply tubes to the carburetor, using a T with a shut-off cock to each, no time would be lost and each defect could be remedied without stopping. Another safe plan would be to use a half-pint of oil to five gallons of gasolene and in addition to this the usual oiling system for use as conditions might require. Many a race has been lost or a day's sail spoiled by not having such safeguards against possible engine troubles.

A 65-Foot Sea Going Power Cruiser

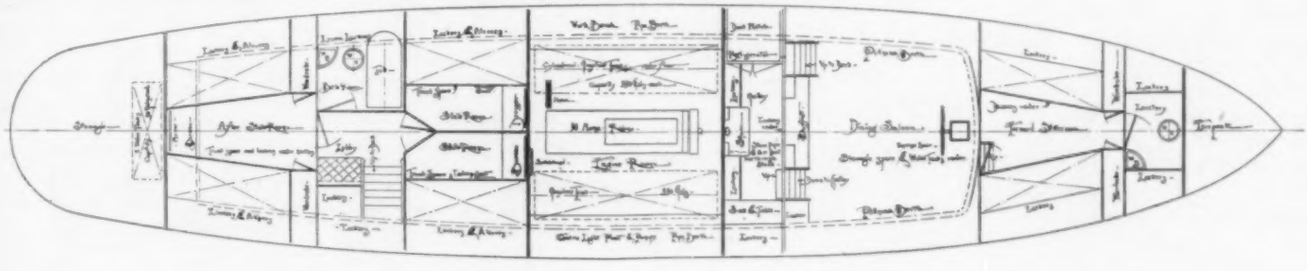


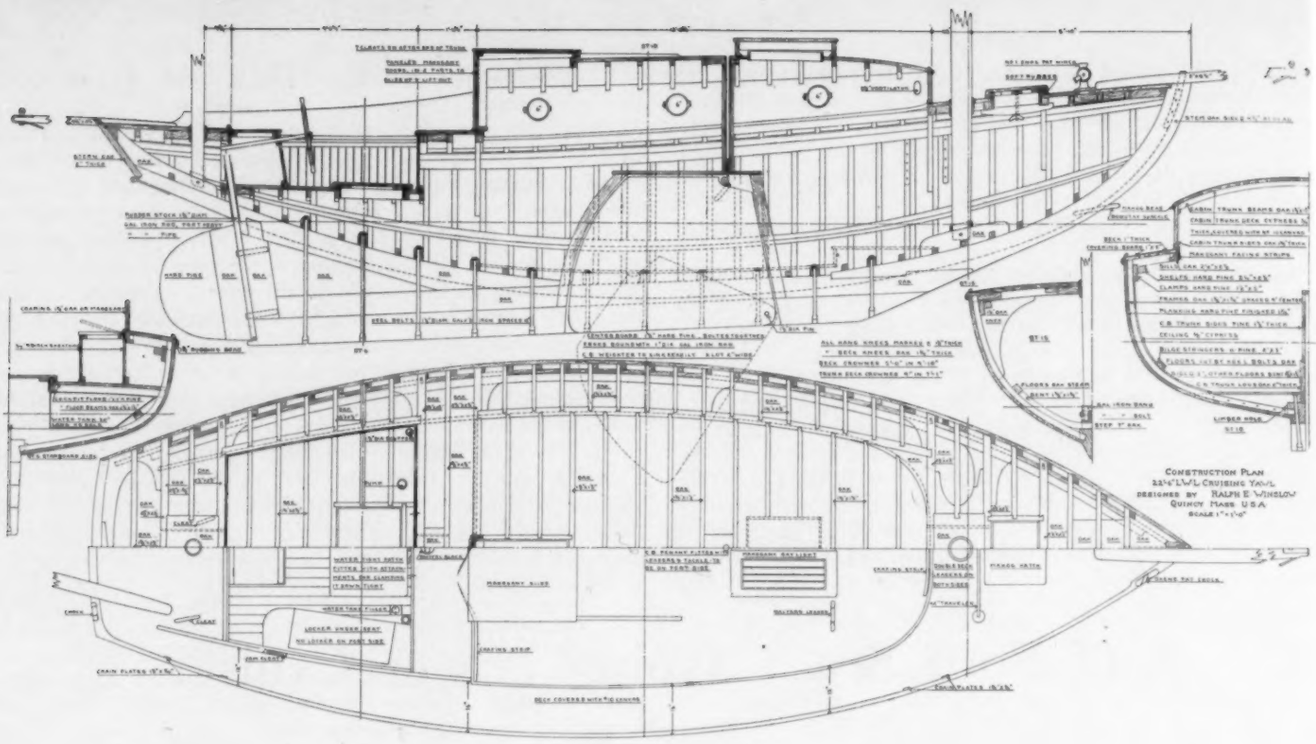
THE plans which we publish herewith from the board of Mr. L. Kromholz, Naval Architect, are of a 65-foot seagoing power cruiser which is to be built for use along the Jersey coast. She is a big, able boat, her outboard profile suggesting somewhat the lines of an ocean steamship, and she has an unusual amount of accommodation for a boat of this size, there being as much room below as in the average 100-foot steam yacht.

The boat has an unbroken sheer line fore and aft, with a straight stem, an elliptical steamer stern and long keel. She is rather deep for a boat of this size. Her principal dimensions are, length over all 65 feet, beam 13 feet and draft 4 feet, 6 inches. She is practically a flush deck boat with a raised cabin trunk extending from the deck house aft over the living quarters. The deck house contains a large dining saloon with 90 square feet of floor space, having a good sized buffet at the after end and a Pullman berth on either side that closes up during the day. Aft of this deck house is a navigating bridge, on top of the extension trunk. There is also a steering wheel in the deck house for use in stormy weather.

The accommodations below consist of two double and two single staterooms, a vestibule or lobby and two toilet rooms, one containing bath tub.

The engine room is amidships, the power consisting of a 50-H.P. 4-cylinder Ralaco, giving a mean speed of 12 miles an hour. On either side of the engine are cylindrical gasolene tanks with a total capacity of 700 gallons, while at the forward end of the engine room is a pipe berth on either side for the crew of two men. Three of the staterooms are aft, separated from the engine room by a water-tight bulkhead, while the fourth stateroom is forward and is entered by the companionway from the deck. The galley is just forward of the engine room and is particularly commodious and well found.





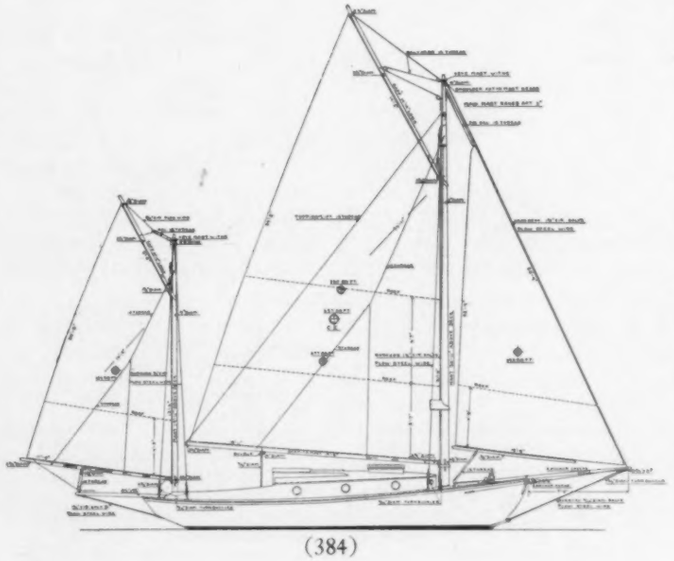
A 30-Foot Cruising Yawl

THE plans of the little 30-foot cruising yawl which we publish herewith, from the board of Mr. Ralph Winslow, N.A., of Quincy, Mass., not only show an able cruising boat, but one which has more room and comfort for a boat of her inches than is often seen. The boat was built for Mr. C. B. Downs for cruising in Chesapeake Bay. The owner's requirements were for a small seagoing vessel with good accommodations, and she has not only filled these requirements, but is able to cruise in shoal water as well by reason of her light draft.

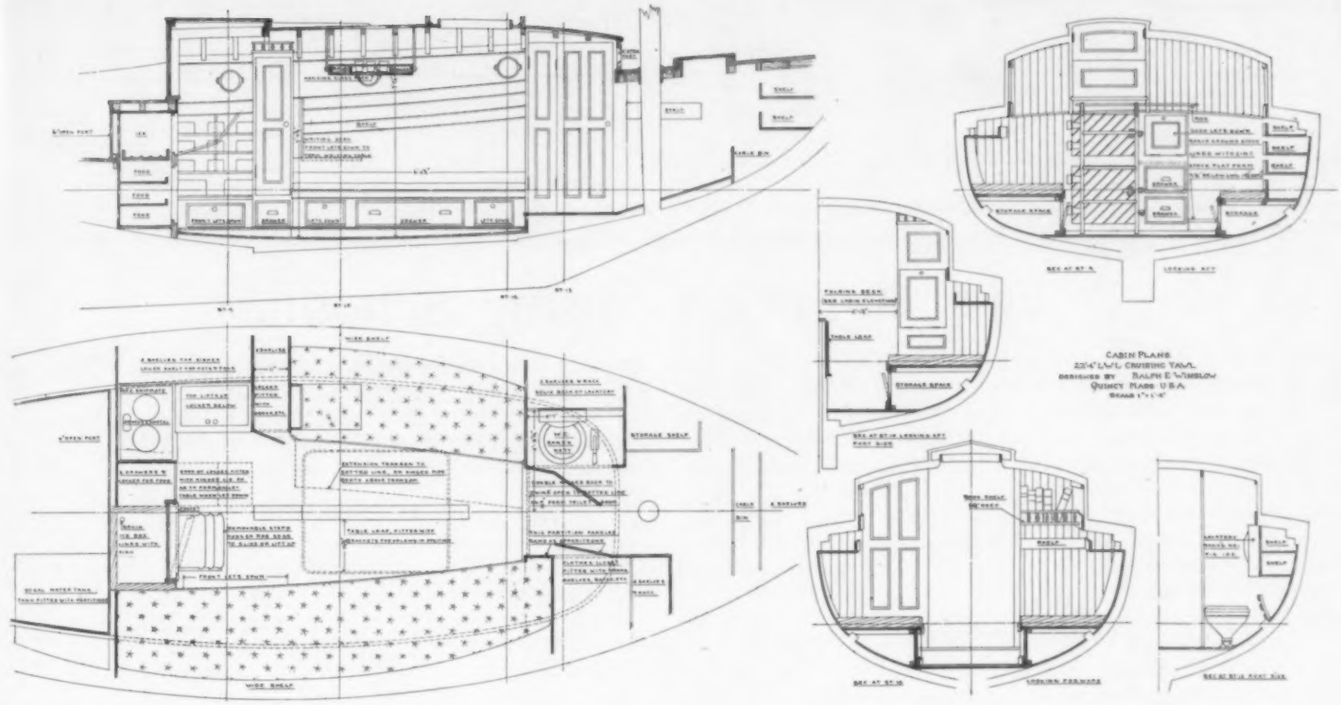
The amount of room in the boat will be better appreciated after reading the following dimensions: Length overall, 29 feet 9 inches; length water line, 22 feet; beam extreme, 9 feet 10 inches; draft 3 feet 3 inches; ballast outside 3400 lbs. of iron bolted on keel; ballast inside, 1400 lbs.; sail area 657 square feet. On these dimensions she gets a roomy cockpit, a large cabin with comfortable sleeping accommodations for four, and 5 feet 6 inches of head room under the carlins. The lines show a high-sided, full-bodied boat with a full bow, good sheer and very moderate overhang aft, while the cabin house is of moderate height and does not in any way spoil the proportions of the boat. The cabin arrangements have been worked out to excellent advantage, both as to comfort and ventilation.

The galley is aft, on the port side, where the smell of the cooking will go out of the companion hatch instead of remaining in the cabin, the galley itself being unusually well appointed for a little boat. There are two extension transoms with shelves above and drawers beneath them, giving plenty of storage space. The starboard transom is about 12 feet long, making two excellent berths, while the port transom pulls out, making a wide double berth. The toilet room is forward, while opposite it is a large clothes closet. Under the forward deck are additional shelves, chain lockers, water tanks, etc.

Between the cabin and the cockpit is a bridge deck which not only adds to the strength of the boat, but gives additional stowage space as the galley is partially under this deck, as are the refrigerator and lockers. Since she was built a 10-h.p. engine has also been installed under this deck without in any way interfering with the cabin accommodations. The centerboard does not take up the whole cabin, as is quite frequently the case in boats of this type, but is used as a table with folding leaves on either side. The cockpit is roomy and is self-bailing with a hatch in the floor opening into the lazarette. The gasolene tanks for the engine are under the cockpit seats. All halyards lead into the cockpit, making the boat an ideal single-hander.

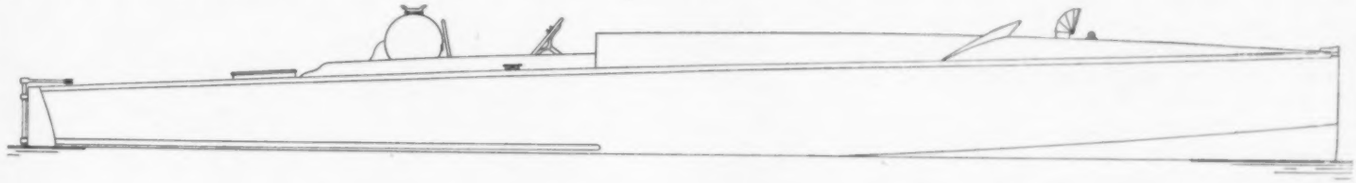


The new owner writes as follows regarding a trip from Boston to Philadelphia which the boat made on her own bottom: "We hammered her right along



and she is surely a grand little boat, as easy in a seaway as anything you can imagine, and she carried herself nobly. She is also perfectly balanced and will steer herself for long spells. We had nearly everything in the way of weather coming down. To sum up, she is very strong, goes to windward wonderfully well for an auxiliary and is dry and easy in the nastiest kind of a sea."

The boat will make about 6 miles an hour under power and is a good, plain, serviceable boat, built to last for years. She should be a mighty successful cruiser for one that desires this type of boat.



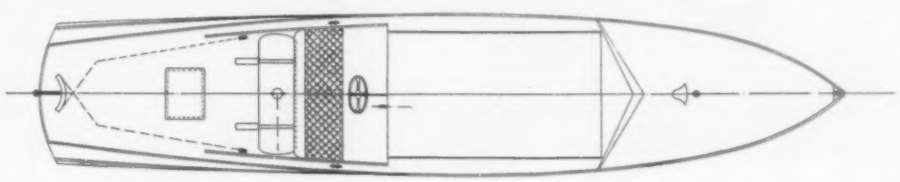
A 25-Foot Hydroplane Runabout

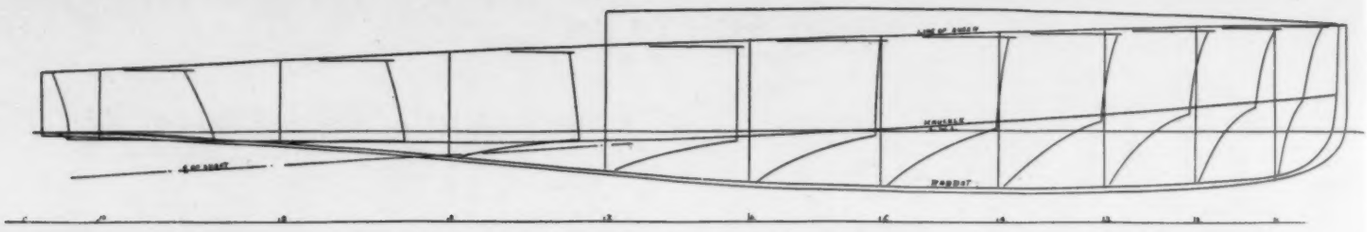
Working on the theory that the hydroplane is to be the speed boat of the future, and realizing the probable demand for such a boat, adapted to the needs of a runabout, Mr. Arthur P. Homer of Boston, Mass., and H. D. Bacon, have worked out a design for a stock hydroplane 25 feet long, the plans of which we publish herewith.

The boat was designed to meet the demand for a medium-priced, high-speed runabout, the general dimensions of the boat being, length over all, 24 feet 11¾ inches, beam 5 feet and weight of hull and engine 1,600 pounds. She is built on the longitudinal frame plan with heavy frames spaced 28 inches apart, strengthened by a stringer on the outside of frame, extending from bow to stern. The boat is designed to be equipped with a 40-h.p. high-speed Sterling engine, and should be remarkably fast for the power, an estimated speed of 26 miles an hour being thought very conservative.

A special feature of the design and one which has been worked out with great care are the entrance angles of the hull. This principle has been thoroughly tested out by the designers and found very satisfactory for high-speed work. Another feature is the slightly concave bottom at the stern sections, which will have the effect of confining the water under the boat, giving solid water for the propeller to work in and allowing it to drive the boat out. The effect of this stern is an absolutely straight wake with no quarter waves. This principle has been tried out by Mr. Homer with great success on several boats.

These boats will be built to the highest possible grade of con-





struction with cedar planking, copper fastenings, and all deck trimmings of mahogany. They will be built at one of the best equipped plants for this class of work in New England.

A Fast 60-Foot Cruising Schooner

IN this day of gasolene power boats it is a pleasure to see once in awhile, the plan of a good out-and-out sailing yacht, and the 60-foot overall keel cruising schooner just designed by Messrs. Cox & Stevens, of New York, will undoubtedly prove interesting to many of the wind-jammer sailors. It is not often that a boat of this size is seen with a schooner rig. Some of the new Class P boats which are being built are nearly as large and are rigged with jib and mainsail, but for an all-around handy rig in a boat of this size the schooner cannot be beaten.

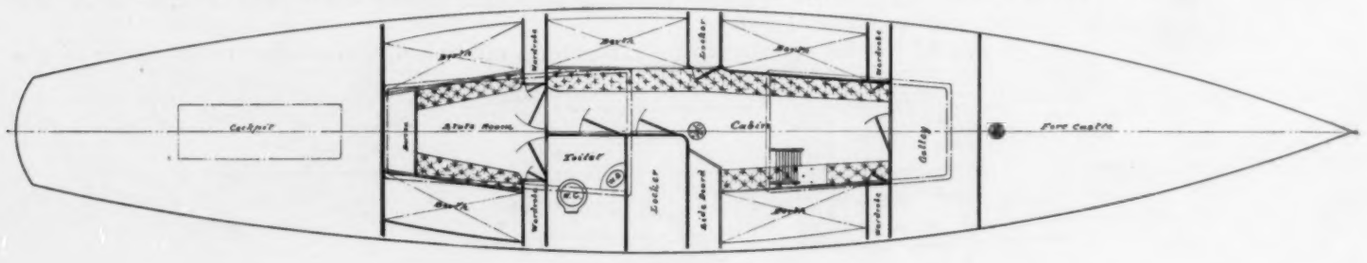
On this boat the sails are all inboard, the forestay coming down to the stem head and the main boom not extending beyond the counter. She has pole masts, though she carries a main topsail set on a yard extending above the masthead. In rig she looks very much like the knockabout fishing schooners that are becoming so popular, and she should prove equally easy to handle.

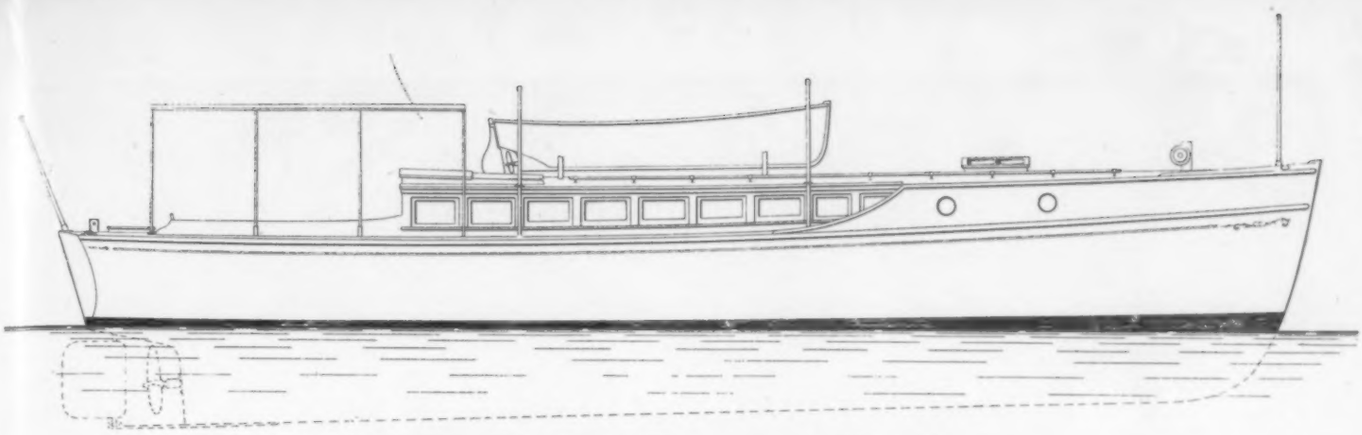
She has an easy entrance with a long, graceful overhang forward, a long keel and moderate overhang aft, her lines indicating that she should have unusual speed for a cruising boat. The principal dimensions are length overall 60 feet, length water line 40 feet, beam extreme 11 feet and draft 7 feet.

She has two deck houses, the forward one between the two masts, the after one over the stateroom and just forward of the cockpit. The companionway is in the forward deck house and leads into the main cabin. In this cabin there are 3 built-in berths with transoms in front, two wardrobes, two large lockers and a sideboard. Opening from the after end of this compartment is a large toilet room. Aft of this saloon is a stateroom with two berths with transoms in front, bureau, wardrobes, etc. A door also opens from the stateroom into the toilet room. Forward of the saloon is a large galley and forecastle.

Anyone who wants a cruising boat of moderate size with a fair turn of speed, yet able to go anywhere along the coast in any weather, and who desires comfort spelled with a large C, could not do better than with a boat of this type. She should be easily handled, the main boom being only 31 feet long, while the rig is simplicity itself, all sheets leading aft to the cockpit.

In a boat of this size the pole mast is a much better rig than one where topmasts are carried. She will have greater power under the large lower sails, and the working rig thus gives her practically the full sail area, topsails being set only in very light weather. The doing away with the bowsprit also adds much to the ease and comfort of handling her. While the boat is narrow she has good freeboard, pleasing sheer and fairly moderate ends, and as she is sharp forward she should be particularly easy in a seaway.





A 45-Foot Power Cruiser

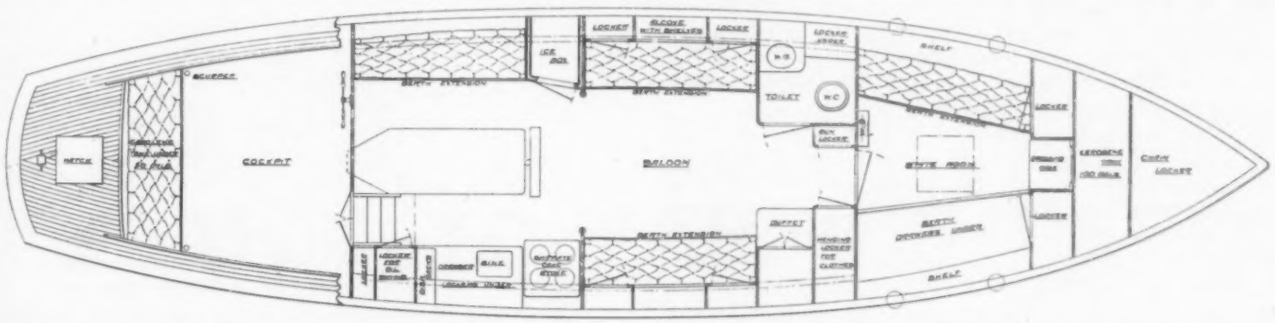
WE publish herewith the plans of a 45-foot power cruiser recently designed by H. W. Patterson, of the Milton Boat Works, Rye, N. Y. The boat is of a size that is very popular on Long Island Sound and along the coast, as it gives excellent cruising accommodations and yet is not so large that it cannot be handled by the owner.

The principal dimensions are: length overall 45 feet, length waterline 42 feet 6 inches, beam 11 feet, draught 3 feet 8 inches. The boat is of the raised deck type with a long extension trunk, a slightly raking stem and straight transom stern. She is divided below into an engine room, saloon and stateroom. In the transom on either side with lockers and alcove shelves back of them, and with partitions at the after end extending just beyond the line of the transoms.

The engine room is in the after end of the cabin trunk and has an extension transom and ice box on one side with a galley, Shipmate range, dish racks, locker for oil skins, etc., on the other side.

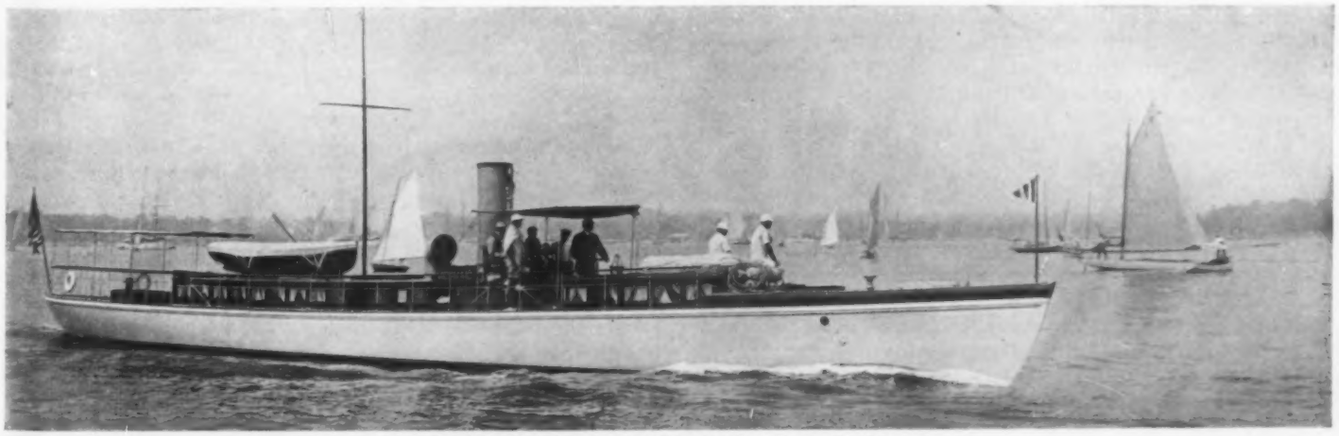
It was the owner's intention to live on board with his family during the summer, and in the fall to cruise South as far as the Carolinas, so that an able seaworthy boat was required.

The construction is unusually heavy throughout; the stem,

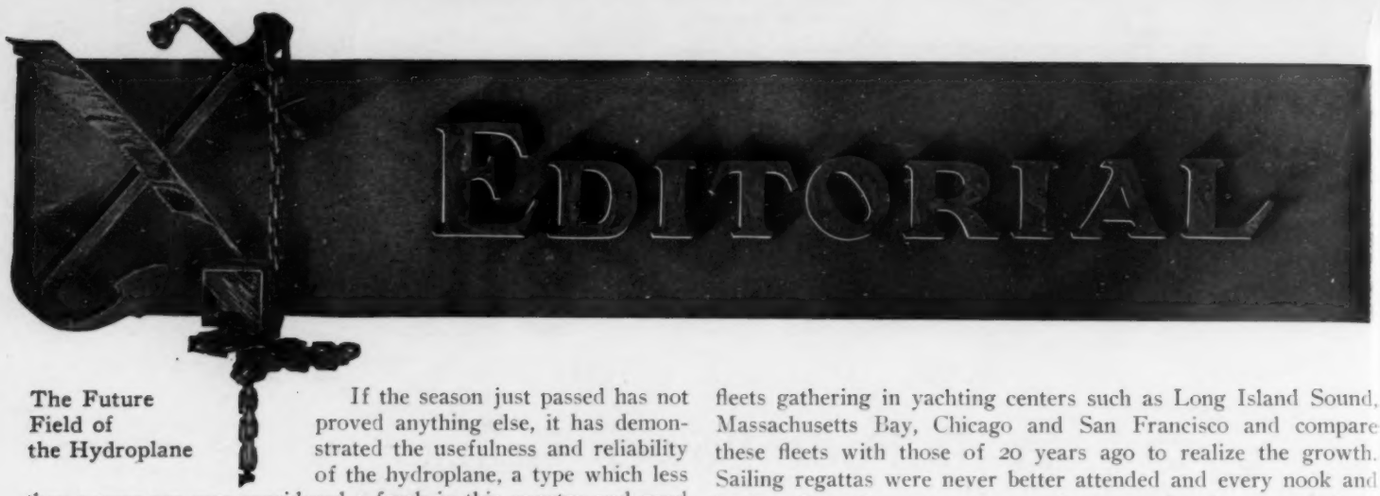


extreme bow are the chain lockers, next to which is a 100-gallon gasolene tank. Next aft comes the stateroom with a built-in berth on the starboard side and extension transom on the port side, dressing case, large clothes lockers, wash basin, etc. Between the stateroom and saloon is a good sized toilet room with a gun locker in front of it, while on the starboard side is a large hanging clothes locker and buffet. The saloon has an extension

keel, sternboard and frames are of oak; planking of yellow pine; interior and exterior finish of mahogany; fastenings of copper, while the hull below waterline is to be copper sheathed. The rudder, skeg and all fittings are to be of bronze. An engine equipped to use either gasolene or kerosene was desired, so that a 3-cylinder, 4-cycle, heavy duty convertible engine of 27 H.P. was selected, that will give a speed of 10 miles an hour.



MERMAID, AN IDEAL YACHT TENDER AND DAY-BOAT.



The Future Field of the Hydroplane

If the season just passed has not proved anything else, it has demonstrated the usefulness and reliability of the hydroplane, a type which less than a year ago was considered a freak in this country and good only in the smoothest of water and for racing purposes, with the chances even then very much in favor of the accepted type of displacement boat. But during the season's racing the type has won recognition on its merits, and its field of usefulness will be very much broadened in the future. This is largely due to the adoption of the conventional type of hull above the water with the hydroplane principle applied only to the bottom, a feature that was originally brought out by Fauber. A boat of this type seems nearly as good a sea craft as the smaller displacement boats (except possibly in very rough water) and in many respects, such as in turning and handling, they show superiority over the displacement racing type. The principle, of course, produces a boat that can be driven at a very high rate of speed with very much less power than the older type, and it thus brings the fast boat within the reach of men of very moderate means.

The hydroplane hull, especially of the single step or single plane type, can be built for much less money than a displacement boat, from $250 to $500 covering the average cost of a hull from 19 to 26 feet in length, while from 40 to 60 H.P. will drive these hulls at a speed close to 30 miles an hour. With the greater beam of the hydroplane greater seating accommodation is also possible, so that a fast boat will answer all the purposes of a runabout, making a very useful type. From $1,200 to $2,500 should cover the complete cost of boats of the size above mentioned, which places them within the means of many who would be barred from a speed boat that requires power rated in the hundreds and which takes a hull from 32 to 40 feet long to float it. Undoubtedly, the hydroplane will become a stock boat proposition, which will tend to bring the price still nearer the reach of men of moderate means.

Mr. W. H. Fauber predicts that the type will also be much used in larger boats and will have a commercial value in vessels up to 75 feet long, especially for naval use as torpedo and despatch boats. By making them much sharper forward the drawbacks of pounding can be largely eliminated, and the power that can be saved and the speed gained makes them an assured factor in future naval design.

The Sailboat not on the decline

One has heard so much talk during the past few years that the sailing yacht is doomed, and that the species is already on the wane, that these statements are accepted as facts by a great many who are not in a position to know the true state of affairs, and even by some who should know better. While it is true that the advent of the power boat has caused this type to become deservedly popular and to flourish like the green bay tree, yet there are more boats being sailed for pleasure today than ever before in the history of American yachting. One has only to see the sailing fleets gathering in yachting centers such as Long Island Sound, Massachusetts Bay, Chicago and San Francisco and compare these fleets with those of 20 years ago to realize the growth. Sailing regattas were never better attended and every nook and harbor along shore sees more yachts on cruise than ever before. The truth is that the power boat has multiplied so much more rapidly than the sail boat, that one gets the impression that the latter type is on the wane.

The growth of the two types, however, while they may increase in different ratios, should still go on together; and so far from the interests of one type being diametrically opposed to the other, the growth of one type should logically help the other. Every sailing man that cruises puts an internal combustion engine into his boat for use in calms, and for general all-round usefulness; and even the out-and-out racer is using a power tender for his small boat outfit, and frequently uses a large power boat as a yacht tender for living purposes and for the storing of spare gear and such like duffle. The stench of gasolene is getting to be almost as sweet to the nostrils of the dyed-in-the-wool windjammer as it is to the recruit whose sole knowledge of boats began with the carburetor and spark coil. Most of the yacht clubs are largely or entirely supported by the power boat men, and the interests of the two classes coincide.

The only places where sailing is really on the decline are on the smaller lakes and rivers, where conditions were never ideal for the sport and where it flourished solely because it was the only available type of pleasure boat to be had. In such localities the out-and-out power boat is forcing the sail boat to the wall, and for a good and sufficient reason. But the breed won't die. Those who have taken to the water from the pure love of it, to whom the rattle of a block to the slat of a sail is music in the ears, while they recognize the value of the internal combustion engine and are making daily use of it, as engine manufacturers can testify, are still going to cling to canvas and lead, and pass on this love to future generations.

The Exhaust Nuisance

There has been so much complaint against the nuisance of open exhausts along the shores of the Hudson, Long Island Sound and New York's lower bay, that a new law went into effect September 1st, making it a misdemeanor to operate such craft in these waters without mufflers. Where so many devices for stifling the exhaust can be had at small cost and with practically no detriment to the efficiency of the engine, it behooves all boat owners to see that their engines are equipped with proper muffling devices. Though as yet most of the laws on this subject are local municipal regulations, a more general law may be passed if boat owners do not take proper precautions in abating what amounts to a nuisance in those localities close to the shore where there are many boats in use. An article in this issue of YACHTING on this subject should be of interest to all motor boat owners.

WORLD WIDE FAME FOR EXCELLENCY

Yachts
Launches
Marine
Steam
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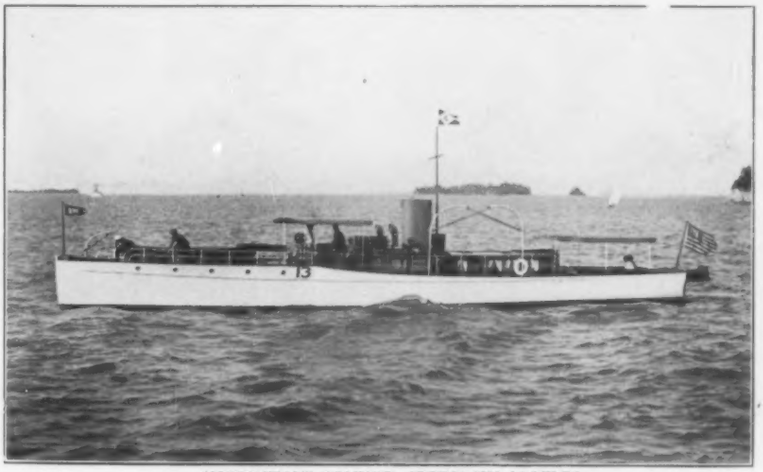

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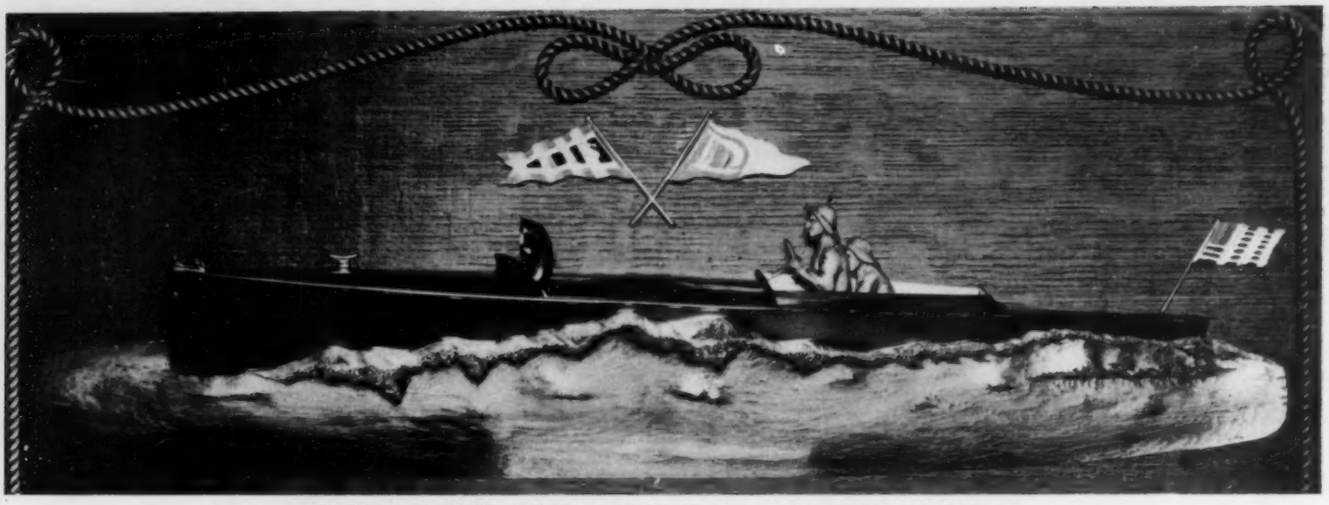

PERPETUAL CHALLENGE TROPHY OF DELAWARE RIVER YACHT RACING ASSOCIATION.

Driftwood From Along Shore

The Most Successful Yachting Season Ever Seen at Buffalo

At the lower end of Lake Erie they are saying that the summer just closed has seen the best racing ever pulled off on fresh water. Nothing new about that! They have said the same thing other years. But here's the difference: This year boatmen are saying it at Chicago, New York and even as far as Palm Beach, for it's true.

Much of it is an old story now. Everyone has heard about the motor boating meet held at Buffalo in September, of the wonderful speed attained by the little Reliance IV, of how Courier III and Gretchen II fought it out for the E. R. Thomas trophy after Dixie IV had thrown herself high and dry on the rocks that lined the river. They have read of the finish at Buffalo of the Scripps Cruise and the truths of motor boat efficiency that it clinched forever. These and other events stand out like bright lights on a dark watch; but practically nothing has been said about the scores of races wherein the competing craft were not of national fame. And these are the events the Buffalo boatman has in his mind's eye when he says that the races run there this year were the best ever seen on fresh water.

Good racing was almost a continuous performance among the "put-puts." Both the Buffalo Launch Club and the Motor Boat Club of Buffalo had a long series of events scheduled, and every Saturday afternoon through the warm months a large crowd was sure to be down the river watching the fast ones. What they saw has in many cases passed into motor boating history; but strangely enough the performance of the sail boats that compose the Buffalo fleet have either been overlooked or passed with superficial mention by nautical writers all through the summer.

Never was there a season like it in the history of the Buffalo Yacht Club. It began on Memorial Day and continued until cold breezes made yachting no fun, and even after that it lasted long in club house conversation.

The first event up was the race for the cup presented by Commodore Edward N. Smith of the Buffalo Yacht Club and open to all the cabin boats of the club. It was run over the club's 12-mile course—from the club house to Waverly Shoal, thence to a point off the Lackawanna Steel plant and back again. The winner was Invader, the Canadian cup winner known to every fresh-water sail-boat man. She was brought to Buffalo from Hamilton, Ont., early in the season by Dr. Edward L. Hewson. He thought she would make the natives along the lower end of Lake Erie take notice—and she did. It is worthy of mention that in this race the first five boats finished within four minutes of each other. They were recorded in the following order: Ida, Allen Cortes, owner; Swastika, Harry G. Smith, owner; Beppo, C. L. Shamp, owner; Magia, Clarence Ferris, owner.

In the race held over the club course on June 10th the boats were divided into two classes. The principal prize for class A was a silver trophy donated by Robert H. Mason, vice-commodore of the club. The prize in Class B was the Weed trophy. L. G. Northrup's 35-footer More Trouble, recently brought from New York, won the Class A event, and Magia won in Class B.

One of the biggest long-distance events of the season was the cruise from Buffalo to Port Maitland, Ont., which began on June 24th, and although the distance was only 78 miles it lasted nearly 24 hours, as the wind was light at the finish and the boats drifted in. Invader was first in Class A, winning the trophy presented by Ex-Commodore Edward Michaels, while the silver cup given by the Niagara Motor Boat Works for the winner in B Class went to Magia.

The Gardner Cup Race, by far the oldest trophy in the possession of the club, was held on the Fourth of July, and it brought out 16 of the cabin boats. This race was run over a triangular course of 16 miles laid out in the Lake. The finish of this race was one of the most remarkable in the history of the club. Of the 16 boats that started, eight finished within 10 minutes. Swastika, the fast 41-footer was first. She has twice won the Gardner cup, and missed it only by a narrow margin last year.

Much interest was taken in the race for the cup presented by Commodore Michaels three years ago. According to the rules it must be won three times to become the property of the winner. Three boats now have a leg on it but no one has won it twice. This year Invader was the winner.

Labor Day was celebrated by the annual cruise and race to Port Maitland for the trophy presented by C. D. Buckpitt. Sixteen cabin boats started and More Trouble won. Only four boats finished on account of lack of wind.

There were several other races including the Oldman Cup event which Swastika won, the Beals Cup which Capt. H. A. Chamberlain's Lorna II gathered in and the Heintz Art Metal Co. trophy won by Invader, and a number of races for open boats wherein Dr. W. H. Annowski's Kate distinguished herself.

When the season was all over, it was found that Invader had won the championship flag in Class A and Beppo carried off the highest honors in Class B.

But the efforts of the Buffalo Yacht Club were not alone directed to furnishing fun for the sail boat admirers. A large part of the club fleet is made up of motor boats, and every year an event is arranged which brings out more than local talent. Last season it was the race for the Hower trophy. This year the prize was a trophy presented by Edward Smith. It was a free-for-all scratch race and it brought a splendid field of speed boats to the starting line. Courier II, owned by William J. Conners was the winner. An incident which added excitement for the onlookers was the capsizing of Kitty Hawk as she was going up to the line.

Yes, it was a good season on the lower end of Lake Erie. There was an abundance of good races. But that is not the most important part of it. The real gain was in the interest shown in the sport—sailing and motor boating alike. All of the three larger clubs have shown great increases in membership, and—whisper it gently—even some of the verandah sailors are getting into the game.

"I never in my life saw a season with such good signs," said one of the old club men to a little group that was holding a post mortem on 1911. "It isn't the races—a little energy and money will do that anywhere—nor the newspaper talk. The thing that counts is that the fellows are taking off their town clothes and getting aboard. And don't let anyone tell you that the sail boat is being run off the lakes by the little kickers. You're going to see more interest in sailing from now on than you ever saw even in the old days. Mind what I'm telling you."

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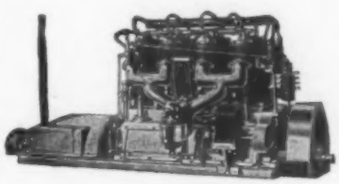

4 Cyl. 24-40 H.P.

The illustration in the center of the page shows our 4-cylinder engine of a more rugged type, developing 24-40 H. P. This engine is suitable for cruisers up to 40 feet, operating at medium speed. It may, however, be equipped with aluminum crank case and it will then prove just the engine you want for speed boats up to 35 feet. A thoroughly dependable, staple rig.

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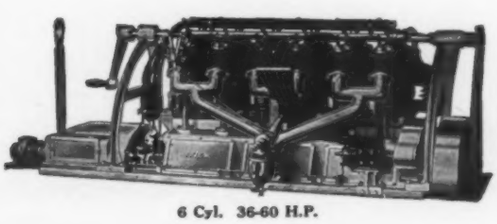

6 Cyl. 36-60 H.P.

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WATCHING DELAWARE RIVER Y. R. ASS'N RACES FROM BRIDESBURG Y. C.

Races of the Delaware River Y. R. Ass'n

On Sept. 22 and 23, the Delaware River Yacht Racing Association finished its racing schedule by holding a two days' meet for cruisers and speed boats. Wishing to give all the clubs of the Association a chance to witness the races, the committee planned to run the cruiser race from the Wilmington Yacht Club so that the Philadelphia Yacht Club, the Alpha Boat Club, the Corinthian, Westville, and Woodbury Yacht Clubs, and the Chester Motor Boat Club would have a chance to take part in the sport. The speed boat contest was turned over to the Delaware River Club at Torresdale, on the upper Delaware, and the same ideas were carried out. The racers passed the very doors of the Beverly Yacht Club, the Keystone Yacht Club, the Bridesburg Yacht Club, the Anchor Yacht Club, the Columbia Yacht Club, the Farragut Club, the Red Dragon Canoe Club and the Camden Motor Boat Club.

THE CRUISERS RACE.

The Wilmington Yacht Club located at Gorden Heights, just above Wilmington, Del., was the rendezvous for the boats on Thursday, Sept. 21st and maybe the good fellows down there didn't have things about right for the cruisers when they landed. The club was decorated and the Entertainment Committee composed of Messrs. Pusey, Moxham and Thompson were on the pier and took charge of the crews as they showed up. Off to the club for dinner was the order, and then if a boat had not been measured, the committee at once hunted up the official measurer of the Association and this work was attended to. During the evening an informal smoker was given and the men on deck had a chance to make speeches, sing, tell a good fish lie or smoke themselves to death. When the Ben Riley landed, the fun commenced all over again, and her owner, Geo. Bilyeu, saw to it that everyone felt the same way about yacht racing that he did.

Friday morning all crews were up preparing for the long grind to Ship John Light, some 40 miles down the old Delaware Bay. The rules told us to report at 9 a. m., and every boat was there ready, but the condition of the tide made it seem foolish to start as the smaller boats would have to buck the tide both ways. The committee decided to send the boats off on their handicaps, so at 12:02, the little Arab was shot over the line and the others followed in order: Eugenia, Adois, Chelwood and Ben Riley together, Pickaninny, Rosalie, Clare II, Casino, Ibbie Jane, Haji, Elk, Phantom, Budd, 57, Isabella, Vixen, Rainbow.

It was too bad that the Rosalie was disqualified under the rules we were working. She did not have a self-bailing cockpit on flush deck. Some others had a beam measurement less than 1-5 of their over all length. However, they all went over the course and finished the race.

The racers were sent off from the Margurette II, Com. Cartledge's fine 80-foot cruiser. We were entertained royally on the Margurette and had the ship to ourselves, after the cruisers were out of sight.

At 3:30 p. m. the Race Committee of the Wilmington Yacht Club sent off a bunch of invited speed boats to fill in the time while waiting for the cruisers to return. They went over a course of 4 miles five times around. At the end of the first lap Zip III had opened up a gap of 37 seconds on Cyram with Elmaja third, Alfred II fourth and Caroline last but running in grand style. On the second lap the Elmaja developed carburetor trouble and was forced to stop twice on this lap. At the end of the second lap, Zip was a minute and 20 seconds ahead of Cyram. The Caroline made 20 miles and over, which made her eligible for the Saturday's race for the Philadelphia Record Trophy.

After supper, the committee hustled back to the Margurette and set the night signal, then smoked and talked until we heard the salute of one of the racers. From the first blast of a Klaxon the excitement ran high until midnight. Those on the pier set up a yell, fired cannons and went crazy when we reported by megaphone that "The Chelwood was with Pickaninny 10 seconds behind." It was just 8.10 p. m., when the Chelwood again showed her superior speed to the fleet of eighteen fine cruisers but she had very little to boast about as the Pickaninny was only 10 seconds back of her. Seven minutes and 18 seconds later the famous glass-cabin cruiser, Ben Riley finished. Eight minutes more to wait, then the Haji shot by and then the Clare II 6 minutes after. Casino finished 2 minutes later and the Adois 4 minutes after her. Dr. Swayne's little Eugenia finished 38 minutes after the Chelwood, and that was going some. Phantom busted up and Budd came to the rescue, giving up all chances she had of picking a prize. The committee gave her a medal for her good behavior. The Association presented each cruiser with two handsome souvenier medals.

Mr. Ruf Lenning of the Chelwood was very happy when Headley with tears in his eyes (Headley wanted that Pickaninny to win) gave the great Philadelphia Record Trophy to Chelwood and said she was the fastest boat on the river. Chelwood also wins the shield presented by the Association.

THE SPEED BOAT RACES.

Promptly at 2:30 p. m. Saturday, the first boat was sent off on a 36-mile course. Caroline started in a mass of foam and ran until 3:50 when she hit a floating log that ripped her shaft nearly out of her. The Dephia got off at 2:52. Then V.S.C. got away at 2:57 and made a fine sight as she rushed the starting line. Cyram, the Sea Isle City Yacht Club's famous speeder made a rush for the line at 2.59.31; then came the W. S. Vare at 3.09.10 and the wonderful little Sand Burr with her nose up in the air went flashing past at 3.20.49. The beautiful Elmaja got away at 3.27.57 and Zip III zipped past to catch the leaders, doing her best to make up her time allowance.

They commenced to finish the first lap at 3.25, and at 4.11.42 Zip had covered the first round of 18 miles in 39 minutes and 3 seconds. Cyram did it in 45 minutes 26 seconds and V.S.C. in 54 minutes 18 seconds. The W. S. Vare made the first lap in 50 minutes 55 seconds, and the Elmaja took 56 minutes 58 seconds to cover the 18 knots.

Poor Sand Burr hit a floating log and went out of business, much to the sorrow of the hundreds of spectators lining the shores who had come from the city to see this boat make her wonderful burst of speed. Zip, after running like a train of lightning, had engine trouble and with broken hearts her crew brought her to the club.

After the first lap the rumor got afloat that Cyram had not turned the stake boat and would be disqualified. This left the Camden Motor Boat Club in the lead for the Record placque and the Camden boys went wild, not at the mishap of the Cyram, but as interest had been at such a high pitch for this trophy they could not help the yell of victory. "Here they come! Cyram in the lead!" the crowd yelled, and at 4.34.03 the Cyram finished with a glad hand from the spectators. V.S.C. was right on her heels and crossed at 4.45.35. Five minutes later the W. S. Vare finished, her time being 4.50.56. The Elmaja came home at 5.11.40, the Delphia at 6.03 and the contest of speed and mishaps was over.

The Delaware River Yacht Racing Association is a branch of the A.P.B.A. It was organized by Dr. C. S. Street last May and has the following clubs as members: The Yachtsmen's Club; Philadelphia Y. C.; Riverton Y. C.; Delaware River Club; Keystone Y. C.; Trenton Y. C.; Beverly Y. C.; Farragut Club; Bridesburg Y. C.; Flat Rock Motor Boat Club; Anchor Y. C.; Columbia Y. C.; Westville Y. C.; Woodbury Y. C.; Bridgeton Y. C.; Red Dragon Canoe Club; Alpha Y. C.; Chester Y. C.; Wilmington Y. C.; Camden M.B.C.

The Executive Board of the Association is made up of two live men from each one of these clubs. The officers are: Dr. C. S. Street, Pres., Com. E. Claud Headley, Vice-Pres.; Harold Renner, Secy.; H. B. Hills, Treasurer.

"Doc."

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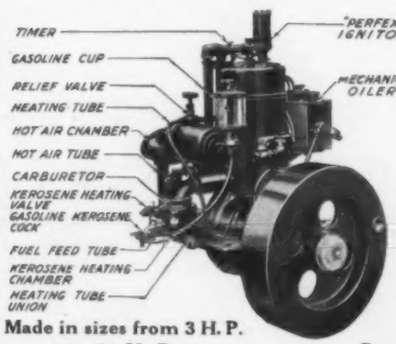

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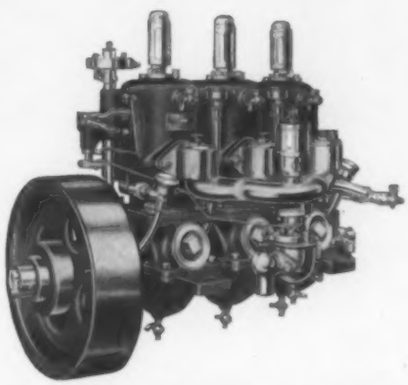

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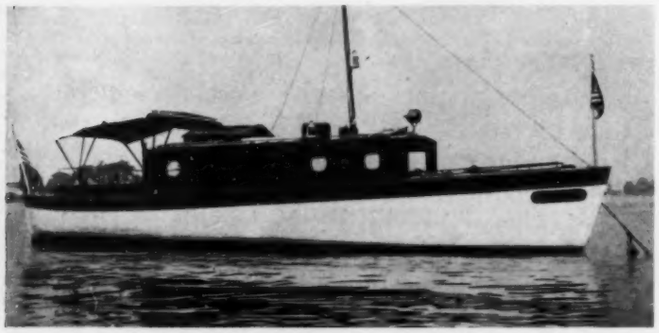
Riverton Yacht Club Regatta

The Riverton Yacht Club, the oldest club on the Delaware River, held its Fall Regatta on Saturday, September 30th, and it proved to be the greatest event ever held on the river.

An exceptionally high wind from the northeast kept a few of the speed boats from venturing out. In the morning the wind blew a gale, but gradually diminished until, in the afternoon, there was just a fair sea running. Yachtsmen were on hand from all the Jersey and Pennsylvania yacht clubs, and the harbor was filled with visiting crafts of all descriptions, from a small, 16-foot, 1½ horse, one-lunger to the 90 and 100-foot palace boats. Several of the yachts belonging to the Riverton fleet were decorated and signal flags were also strung from the mast of the club itself. The main street leading to the club and the river bank was filled with automobiles. Never before had so many people congregated to witness any water event on the Delaware.

In the morning at 10 o'clock the cruisers of the Riverton fleet started in their race to Burlington Island and return, 17 nautical miles. A. W. Herr's Miny, with a 56-minute handicap over the scratch boat, won this event by 16 minutes and 43 seconds. The contest between the second and third boats was very interesting, and R. H. Stackhouse's new 38-foot Waonda did not catch G. H. Mealley's 36-foot Eagle until within a mile of the finish. The Neptune, of J. C. Stoltz, finished 5 minutes and 36 seconds after the third boat.

After the finish of the cruiser race all interest was centered in the speed boats. The course was 20 nautical miles, 3 laps, and the boats were always in sight of the spectators. Caroline II did not have very much trouble in winning the event, as she had almost two laps to her credit before the scratch boat started. This boat was built to take advantage of the American Power Boat Association ratings, and is probably the



EAGLE, RIVERTON YACHT CLUB.

fastest handicap boat in the country. The Sand Burr had trouble in starting, and did not get into trim until after the second lap, but when she did it was a beautiful sight to see this boat "plane." All that could be seen of the Zip III was the spray she threw which rose to the height of 6 feet.

Three prizes were offered, first and second handicap prize, and time prize. These consisted of three handsome, solid silver cups. The regatta committee were complimented on their hard work in arranging the race, and also in the way they handled the event.

CRUISERS.

Boat.	Owner.	Start.	Finish.	Elpsd. Time.
Miny	A. W. Herr	10 00 00	12 46 47	2 46 47
Waonda	R. H. Stackhouse	10 56 10	1 03 30	2 07 20
Eagle	G. H Mealley	10 36 33	1 05 05	2 28 32
Neptune	J. C. Stoltz	10 51 00	1 10 29	2 19 29

SPEED BOATS.

Caroline II	Ed. J. Du Mee	3 30 00	4 24 59	54 50
Zip III	T. Hutchinson	4 04 46	4 52 24	47 38
W. S. Vare	Jas. Glenn	3 51 42	4 54 01	1 02 19
Sand Burr	A. K. and C. D. White	3 58 49	5 03 08	1 04 19

The Season on the Jersey Coast

SEASIDE YACHT CLUB.

The summer season of 1911 has been without question the most successful and most interesting in the history of this famous old club. A greater number of racing events were carded than ever before, and they were run off in a manner that reflects lasting credit upon the hustling regatta committee. The series of races throughout the season for the Marlborough trophy kept everybody in South Jersey guessing, and when the final race was held over the club course on September 16, everybody was on edge. In this race every speed boat in Jersey with a reputation waited for the starting gun and after a magnificent contest the Vanish, Walter Reed's champion of last year, was awarded first place on corrected time and later when officials had arranged the scores for the season, she was awarded the trophy and the championship for 1911.

This club trotted out another champion this year in the Sand Burr II, which boat cleaned up everything in the East in the 20-foot class. At Peoria, the little flyer showed her stern to the best boats in the West. Her worst defeat of the year was in the last race over the club course, in the special match race with the "Kitty Hawk" for the World's Championship, when she developed engine trouble after running over 2,000 miles in the season, and never even had a chance.

The record of the Sand Burr II for 1911:

June 21 at Cambridge, Md. 1st place in three Free-for-All Handicap Races.

July 25 and 26 at Peoria, Ill. 1st place in 20, 26 and 32-foot classes. World's Records. 2nd place in 40-foot class.

August 1st and 2nd at Detroit, Mich. 1st place in 20-foot class.

August 15th at Stone Harbor, New Jersey. 1st place in Special Handicap.

August 19th at Torresdale, Penna. Delaware River Open Handicaps. Won special fastest time prize for the mile. Won special match race over Pee-Vee-Ho by 7 minutes.

September 6-9, at Huntington Harbor, National Carnival, won class C speed-boat race, 26½ miles, class C speed boats, 30 miles. Fastest time in 60-mile handicap; and 75-mile Free-for-All on actual time.

ATLANTIC CITY MOTOR BOAT CLUB.

The season just closed, which was the initial year in the life of this club, has fully demonstrated to the incorporators and the members, that this, the youngest organization in the Jersey Yachting world, will be an important factor during the season of 1912 in the nautical activities along this coast. After the opening day in June many of the boys wanted to continue the success of the first regatta with a series of other races extending throughout the summer, but the wise ones very properly advocated a complete inside organization before entering into the field of competition with the other clubs. This policy has been followed during the first four months and the results show a perfect organization of one hundred and fifty members who are active and enthusiastic and working in complete harmony with the officers in their plans for a big year after January 1st.

The racing course was proved to be, without question, one of the finest in New Jersey for speed boat racing on the 25th day of June (opening day) when the Vanish, Sand Burr II, Dart II and Caroline II raced over the 12-mile course at top speed and at the finish the owners and crews of the boats reported the course as ideal for this class of sport. Another indication of the extensive water facilities of the club was the success of the Atlantic City Water Carnival on the night of August 29th, when a thousand yachts and motor boats floated in the thoroughfare and on the Venice Lagoon.

Wm. H. Bartlett is Commodore, Wm. Riddle, Vice Commodore, Harry E. Smith, Rear Commodore, Orville T. Crane, Fleet Captain, Maurice Risley, Secretary, and George F. Wingate is Treasurer.

RALPH HARCOURT.

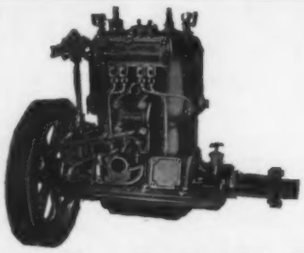
Great Racing at St. Louis Under the Auspices of the Carondulet Motor Boat Club

Two wonderfully well matched 26-footers put up a remarkable duel before the Carondulet Motor Boat Club in St. Louis on Sept. 30-Oct. 1, and closed the western river's racing season by smashing all records ever set up on those rivers by any class of boat.

These boats were the Kitty Hawk II, owned by Lee Counselman of Detroit, Mich., and Reliance IV, owned by J. J. Ryan of Cincinnati, Ohio. Each boat was equipped with a 6-cylinder 70-90 Van Blerck motor 5½x6-inch cylinder weighing approximately 990 pounds. While the hulls were each 26 feet over all in length they differed radically in model. Kitty Hawk II has all the appearance of a Fauber hydroplane when in action and is very similar in shape above the water line. The Reliance is a one-step hydroplane, but she does not show it either when still or in motion, acting much more like a flat-bottomed displacement craft. She was designed and built by C. T. Smith of Algonac, Mich.

Reliance IV decisively defeated Kitty Hawk II in the first day's racing, running 20 miles in 31.55 1-5, or approximately 37.5 miles per hour. Her first lap was travelled (excluding the first turn) in 7.02 4-5, or at a 42.3 mile clip. These figures far exceed those set up by Disturber II and Missouri at Dubuque, Iowa, where Mississippi river championship records were made on July 4th and they exceed all marks hung up by Disturber II, Red Top III and Sand Burr II at Peoria, July 25-26.

The following day Kitty Hawk won the free-for-all from Reliance IV, but the latter struck a log on the fourth lap and stripped her propeller while well in the lead over the Detroit boat. Missouri II and Pronto III, holders of records made at Dubuque, Iowa, and Leading Lady, a contender at the same place, were all contestants and were badly outclassed by the two 26-footers.



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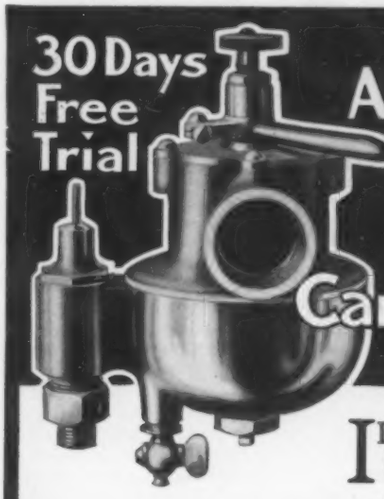

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THE STAMFORD FOUNDRY COMPANY
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Of Interest to the Skipper

Sterlings for 1912 Considerable comment has been stirred up among motor boat enthusiasts, especially the followers of speed boats, by the early announcement from one of the members of the Sterling Engine Company, that the Buffalo concern was about to place its new 8-cylinder racing engine on the market.

It is known that the Sterling Company has been quietly working on a new speed machine and that astonishing results had been obtained during the experiments which began last season. It was not generally believed by the trade, however, that this engine would be out in time to catch the early race meetings in the South. Coming as it does, at the conclusion of a most successful season for the Sterling product over all the big courses, it is eagerly awaited by the speed pilots of the country.

Last season's Sterling racer was an 8-cylinder, 100-H.P., with a bore of 5½ inches and a 6-inch stroke. Considerable stress had been laid on its reliability by its makers, and their wide experience in building engines of the speed type capable of standing up under the grilling test of a long race, certainly gives great assurance to their claims.

It is stated that the stroke of the new speed engine has been lengthened and the power increased to 130-140. The engine was designed also for fast cruising work. The entire upper base has been made of vanadium or manganese bronze and of a barrel type, thus increasing its strength and rigidity. There appear to be no freakish points about it. It is simple and accessible. The drawings show the base supplied with large hand hole plates leaving the interior easy to get at. All journal caps are directly supported between each cylinder. The crank shaft is of chrome nickel steel, claimed to have a tensile strength of 112,000 pounds to the square inch.

Cooter, a novel 33-ft. cruiser equipped with two 12-15-H. P. Sterling engines that give her a speed of 11 1-2 miles.

Connecting rods are drop forgings, of 3½-per cent. nickel steel, tempered. The lower end is equipped with a detachable, interchangeable, bronze backed babbitted shell.

One of the interesting features about this new engine is that its construction permits it to be suspended on three point bearings if desired. This is very necessary in hydroplanes where constant change in shape of the hull is taking place, causing change of alignment. Much has been promised of this new speed monster and she will be carefully watched when the next racing season opens.

Another engine which the Sterling Company is about to introduce, is the new long stroke cruising machine designed for heavy-duty work. It is a 25-35-H.P. engine with a 5½-inch bore and an 8-inch stroke. The length of the stroke is rather unusual, but experience has shown the Sterling Company that for heavy cruising work, this type of engine is best. The Sterling Company believes it will prove the sensation of 1912 and make the ideal machine for heavy cruising work. It develops its rated horsepower at 400 and 550 R.P.M.

Two separate ignition systems are used, the regular equipment being the patented Bosch magnetic plug, dual type, or a High Tension Magneto in connection with separate distributing system. The oiling system is a mechanical feed to cylinders and base in connection with the Brush Patent. The connecting rods are made of special open hearth carbon steel, oil treated after forging. The lower end of the rod is equipped with bronze shells, the inner surface of which is lined with 85-part tin-bearing metal. These are detachable and interchangeable.

The magneto, air pump and governor are located on the starboard side of the engine, easy to reach and are driven from a shaft running parallel with the base. This new long stroke engine and the new 8-cylinder racer are both to be seen in operation in the new test room of the Sterling Company.

We reproduce here a photograph of a novel 33-foot power cruiser called the Cooter, which is equipped with two 12-15-H.P. Sterling engines, which give her a speed of 11½ miles per hour. The boat has 9½ feet beam, which makes her very roomy, while her design has many features that will interest the cruising yachtsman.

Columbians win on the Columbia The Annual Regatta for the Pacific Coast Championship, held on the Columbia River, at Astoria, Oregon, in September, was the best ever held in that section of the country, and brought out Oregon Wolf, apparently one of the two fastest boats in the country. The fact that Oregon Wolf averaged 34.38 knots per hour in a 30-knot race as against an average of 35.12 knots by Dixie IV, has caused the owners of Oregon Wolf to decide to challenge Dixie IV for a match race.

Besides the Pacific Coast Free-For-All Championship and the Displacement Boat Championship, won by Oregon Wolf, races were held for the 32-ft. Championship, the 26-ft. Championship, the Free-for-All Handicap, and also for cruisers, working boats and fishing boats. It is a remarkable fact that Columbian Speed Propellers were carried by all the winners in this regatta with but one exception. In other words, more than $10,000 cash was won in this regatta by boats carrying Columbian Speed Propellers.

The claim of the manufacturers that they have a suitable Columbian Propeller for every type of boat is well supported by the fact that in this regatta Columbian Propellers drove to victory the fastest boat in the country (bar one), the 26-ft. Pacific Champion, the Free-for-All Handicap Champion, the winning cruiser, the winning working boat and the winning fishing boat.

A better testimonial of the speed, power and durability of Columbian Propellers could hardly be obtained. One satisfied user pays "Put a Columbian behind and you'll come out in front."

Atlantic Yacht Tenders Mr. R. A. C. Smith, the owner of the Privateer, has just received from The Atlantic Company of Amesbury one of their 25-foot Semi-Speed Clipper Launches equipped with a 10-H.P. engine and reverse gear, which he will use as a tender on his steam yacht Privateer.

The boat is equipped with air tanks, complying with the Government specifications to qualify as a life boat. The air tanks have capacity for floating 22 people in addition to the weight of the hull.

Government regulations require that all sea-going yachts shall carry life boats and the selection by Mr. Smith of this very handsome model gives him not only a craft with the ability of a life boat but a fast runabout for use between the ship and the shore.

"Valspar still on deck." Mr. Thomas Fleming Day's transatlantic trip in his little Sea Bird has attracted world-wide attention and his successful completion of the journey has brought him many congratulations.

Mr. Day gave his personal attention to the selection of the varnish, on account of the arduous test to which it was to be subjected. The fact that Valspar would not turn white even when kept immersed in water had attracted his interest and accordingly the little boat was varnished with Valspar.

The manufacturers received the following characteristic postal card from him, dated Gibraltar, immediately after his arrival there:

"Valspar still on deck."

A catamaran power boat used at Lake Hopatcong, N. J. Equipped with 12-H. P. 2-cylinder Gray Motor.

A Gray Catamaran Last winter, Philip, Hague and Le Roy Armitage spent nearly all their spare time in constructing a freak boat of the catamaran type which surely did its share toward entertaining the curious ones at the popular summer resort, Lake Hopatcong, New Jersey.

The boat is powered with a 12-H. P. 2-cylinder Gray Motor which gives it a very good speed, but the greatest satisfaction that the owners have received from this boat is the pleasure that they have been able to enjoy

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You can have a generous sample bottle of 3-in-One Oil any time you write for it.

The sample will *convince* you that 3-in-One is the one and only preparation that keeps everything about any boat, launch or sail boat, shining like new, free from rust, verdigris and tarnish, and running like clockwork.

3-in-One is positively the best preparation for cleaning and polishing every veneered and varnished surface aboard. It "chases" all scars and mars. Restores the original finish "good as new."

If it is applied to metal surfaces, neither fresh or salt water can possibly produce rust or tarnish.

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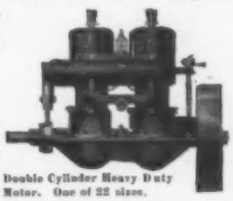

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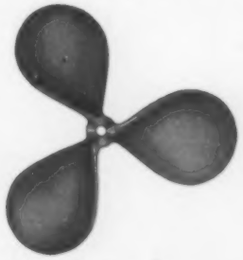

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HYDE WINDLASS COMPANY - - - - BATH, MAINE

Regal Tiger, the Peoria 30-mile racer equipped with six Krice carburetors, one for each cylinder.

in the past summer, as a result of their ingenuity and past winter's labor.

The boat is built in the catamaran style consisting of two 30-foot hulls fastened together. The beam of each single hull is 14½ inches, the freeboard at bow and stern being 12 inches. The frames are made of white oak, the ribs being ¾x¾-inches spaced 8 inches. The ribs are fastened between 1x2-inch keelson and are also fastened to four ribbands. Floor and deck beams spaced 8 inches were used to straighten the frames.

The planking consists of two layers of ¼-inch white pine with painted muslin between. Copper nails were used to fasten the planking to beams. The hulls are held together by five ⅝x2-inch steel channels and 2x4-inch oak beam. The space between the hulls is 20 inches. The engine is a little forward of the center and is mounted on the oak beam and a steel channel. The shaft runs down from the engine between the hulls; the inclination is about 10 degrees. The shaft is supported by two adjustable self-aligning struts.

The deck is made of 1-inch white pine flooring and extends across the hulls for about two-thirds of their length. The outer sides of the hulls extend upwards for about 2 feet, which forms a cockpit which will seat six persons with comfort.

A new plant for the Herreshoff Motor Co. The Herreshoff Motor Company, of Detroit, Michigan, takes pleasure in announcing its early removal to a new factory now in process of erection.

No pains or expense have been spared to make this plant the most artistic and up-to-date automobile factory in the world. At the same time, beauty and taste are so blended with utility and design of construction that the future home of "The Little Thoroughbred" will be in entire accord with the high grade quality of the product of the Herreshoff Motor Company.

Immediately behind the office building and separated therefrom by a grass plot is the model two-story factory, wherein every detail for the assembling of the product of the Herreshoff Motor Company has been carefully and completely provided, with a view of making the most modern and at the same time most artistic factory for the production of motor cars ever yet erected.

The Herreshoff Motor Company will move to its new home about the middle of December, after which time it will take pleasure in welcoming visitors to its new factory.

A 1912 Propeller Catalog The 1912 catalog of the Michigan Wheel Company of Grand Rapids, Michigan, has just been received. This is one of the largest concerns in the United States, in fact in the world, making a specialty of reverse gears, propeller wheels of all descriptions, including the towing, weedless, semi-weedless and the racing propeller wheels, besides the reversible, and a complete line of steering wheels, deck trimmings, underwater exhausts, rear starters, propeller jacks, universal joints, and, in fact, everything for motor boats.

Their 1912 catalog is an improvement over any previous catalog they have issued. They have a good many new articles which no doubt will interest our readers, including a new racing wheel called the Hydroplane, especially designed for hydroplane boats, and on the lines of the Dixie of which they have sold so many and which has won many races in past years. They have a new line of steering wheels with center control, and lever control for bulkheads, deck railings of classical, artistic designs—something entirely new—and four different kinds of rear starters. Besides these they have added exhaust silencers, intake scoops, timers, electric signal horns, carburetors, brass unions and port lights.

Everyone who owns a boat or contemplates owning one for 1912, should send for the Michigan Wheel Company's 1912 catalog, which will be sent free, if you mention that you are a reader of YACHTING.

Breeze I, a novel 20-ft. hydroplane with great speed for her power, equipped with 4-cylinder Fox motor.

Breeze I, A Novel Hydroplane We reproduce here a photograph of a 20-foot hydroplane in action, that has caused a great deal of favorable comment along the Hudson River and Long Island Sound this summer. This is Breeze I, a 19′ 11″ hydroplane, designed by S. S. & R. P. Breese. Her power plant is a 4-cylinder 4 3-4 x 4 1-2 Fox motor.

Breeze I has three planes and at high speed runs on a few inches of the forward plane, about one foot of the midship plane, and a few inches of the stern plane, the sections between being entirely clear of the water.

She made her first appearance just before the International Races, and at the National Carnival at Huntington Bay she won the 60-mile race in Class J.

Krice Carburetor in Regal Tiger The following is a letter received by the Krice Carburetor Co. of Detroit, Mich., in regard to the satisfaction given by the Krice Carburetors in Regal Tiger, the well-known western racing boat.

The new salesroom of Arthur P. Homer at 156 State St., Boston, Mass.

"Herewith find enclosed photograph of our 20-footer Regal Tiger hydroplane in action during the Illinois Valley Yacht Club races on July 26th and 27th, 1911. We used six of your excellent carburetors on a 6-cylinder Pierce-Budd 4x4 engine and we were more than pleased with the way they worked. Owing to a misunderstanding of the starting signal in the 20-foot race, we lost 1 minute and 30 seconds by circling the judges' stand, but took after the boats and passed them one by one, finishing second, and 7 seconds ahead of the next nearest competitor in a race that broke the world's record for 20-foot boats in a 10-mile race.

We had the misfortune of demolishing our hull just before the races on the 27th. However, we are getting our boat in shape for the St. Louis races during the latter part of September, using the same engine and your carburetors, in which we have the utmost confidence. We think that it is the most reliable and easiest carburetor to regulate and operate in the market to-day and you may count on us to boost them whenever we get a chance. Mountier & Harms Bros."

A New Home for Homer Arthur P. Homer, well known gas engine man and New England distributor of the Eagle, Sterling, Reynolds, Waterman and St. Mary's engines, has moved from 88 Broad St., Boston Mass., where he has been located for the last three years to a new store at 156 State St., where he will have room to show a complete line of all the engines which he handles, and will carry a full stock of everything required by motor boat owners.

The accompanying picture shows a general view of the store. Mr. Homer has in addition to this a large store-room and a drafting room. The stock which will be carried will be so complete as to furnish a motor boat and engine show to the general public the year round.

Mr. Homer's designs are of interest to all motor boat owners and he gets out a little book showing these plans, which he will be pleased to forward to any prospective builder.

COLUMBIAN

"THE WHEELS THAT WIN"

Oregon Wolf, Missouri III, Pronto III, Mitt II, Sand Burr II, Viva, Zip III, Ace II, Elmer L II, Potato Bug, Tiny Tad, Rocket.

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SOME OF THE CHAPTER HEADINGS ARE AS FOLLOWS:
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Used by the Cup defenders, the 70's and 65-footers, the racing schooners, the 30's, 25's, Q class, 15-footers, the Sonder-class boats, and by the great majority of racing and winning yachts. Be sure to get Lowell Duck, made in two qualities:

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No. 7 Black, White or Yellow Glue, Soft Quality for Waterproofing Canvas, etc.

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This Glue is made expressly for use in combination with calico between the double planking of diagonally built row boats and motor boats. Melt the Glue, and paint it on the first series of planks with a stiff wire-bound brush; the calico should then be laid on and ironed through; another coating of glue should be painted over, taking care to well cover the calico; after that put on the outside longitudinal planking, and apply the copper rivets in the usual way. The boat will then be found to be perfectly water-tight, and the Glue will expand and contract with the timbers without cracking.

One pound will waterproof three square feet of canvas.

Send for directions for use.

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Medium duty type, heavy enough for the hardest work. Wearing parts as big as the heaviest motors. Material so good the motor doesn't have to be quite as big

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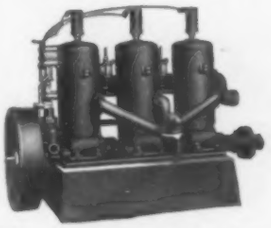

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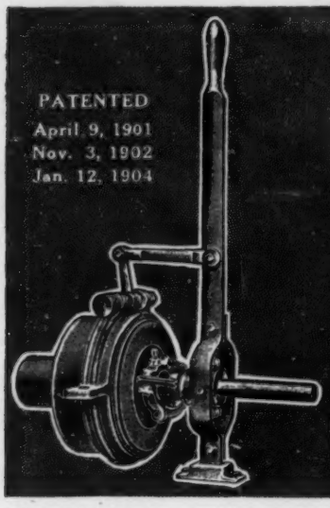

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Mayflower—A Cup Racer that the Ocean Claimed

(Continued from page 366)

cups he had a lot of fun and saved that slump in yachting interest which usually follows a race for the America's Cup.

Mayflower was not suffered to fall into decline and her days thereafter were full. She raced against Volunteer in 1887, as a trial horse, and while she never defeated the new defender she gave her many good practise spins. In 1889 her rig was changed to that of a schooner and she proved a swift and comfortable cruiser. In 1901, William Amory Gardner, of Boston, purchased her and used the vessel for cruising. The yacht was chartered from Eva M. Barker by the group of treasure hunters who were aboard of her when she was wrecked.

Handling Ground Tackle

(Continued from page 352)

the cable fast with a couple of turns around the mast (if it is a good one) than to trust all the weight to the bitts or capstan. Never put out two anchors so that the angle between them and the boat is more than 30 degrees, and the nearer they are in line the better.

In lying to an anchor for any length of time a boat, swinging in a circle with the tide or wind, will naturally cause her cable to foul on the anchor stock, if the anchor is one of that type. In fact, when lying any length of time, a boat will sometimes get three or four round turns of her cable around the stock and shank of the anchor. For this reason it is advisable when lying at an anchor to weigh at least once a day so as to clear the cable, as it is obvious that the holding power of an anchor is greatly reduced with the cable foul of the stock.

In lying to an anchor for a long time, or in a heavy wind where a boat is veering and swinging badly, the cable should always be parcelled where it goes through the bow chock, or where it may come in contact with a stay or with the stem of the boat. A piece of canvas or bagging makes excellent material for parcelling.

If forced to anchor in a narrow channel where you have not room to swing, or alongside of a dock where you want to keep the boat away from the spiles, it is necessary to use a stern anchor. This may be a smaller anchor, or the kedge, if you have one on board. For this purpose owners should see that their boats are equipped with good cleats or bitts in the stern of the boat, so that they will have something to which to fasten the rode for a stern line. The usual brass cleats that one finds screwed into the deck planking aft are about as much good for this purpose as Fulton's steamboat would be in the international races for the Harmsworth Cup. One should also insist on having adequate bitts forward that go right down to the keelson and are well braced at deck beams, and not trust a brass or galvanized cleat.

In weighing anchor, most of the scope is usually taken in before sail is made or the engine started. It is best to heave in until the cable leads at an angle of about 25 degrees from the bow chock. When this is done, start the engine, if a power boat, first seeing that the steering gear is clear and unlocked, taking the precaution of throwing her hard over one way to hard over the other; also note that the engine is running properly when the clutch is thrown out so that you will not be stopping the minute the anchor is weighed. In a small boat the anchor is usually weighed by hand, and even in one with a windlass, slack is taken in by hand until the cable is "up and down." As soon as the man forward calls, "Up and down," break out smartly and haul the anchor up to the hawse pipe or chock. If the anchor comes hard, throwing the engine in on the forward motion will break it out and it can then be hauled up to the

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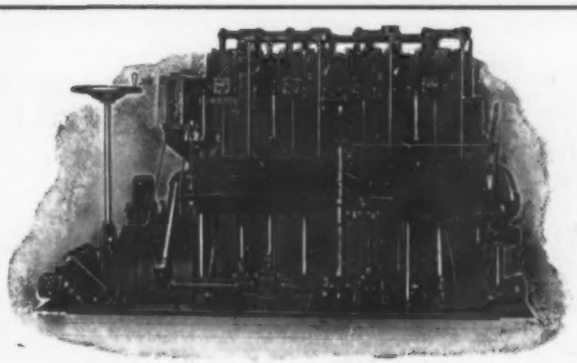

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chock without stopping the engine, unless the anchor is a big one, and the way of the boat is carrying it aft, in which case the engine must be stopped again until the anchor is at the bow.

In a sail boat an anchor can often be "sailed out" if it comes hard, by getting the headsail on her when the cable is short and letting her fill and gather way. When she fetches up on the cable she'll usually start something. On a sloop or schooner, get the mainsail up before the cable is "up and down." Then break out anchor and get headsails on smartly, first seeing that stops are off and all is clear, and let her pay off and gather way by trimming in head sheets.

Sometimes, especially when anchoring on a rocky bottom, an anchor is apt to get caught or the fluke wedged under some rock or obstruction, and it will be impossible to get it out. To prevent this a tripping line is frequently used. This consists of a small light line fastened to a ring on the back of the crown, or at the bottom of the shank, so that the flukes can be lifted out easily. This tripping line will, of course, lead through the hawse pipe, or chock, with the cable, but care must be taken that there is plenty of slack given it so that there is no danger from any strain of the boat tripping the anchor. The tripping line may also be buoyed with a shorter length, if desired, and brought aboard when cable is hove short, if necessary. This is a particularly good plan when anchoring over rocky bottom.

After getting the anchor up, if it has been lying in a muddy bottom, wash it off with two or three pails of water in the draw bucket, or with a hose if there is a pump aboard. Do this before bringing it on deck and getting mud all over the boat, or let it drag for a few minutes under the forefoot until clean. If the anchor is a folding one or is stowed aft, unshackle the cable and put it below in its usual place at once. If a chain cable is used it can be stowed away in the chain lockers; but if hemp cable is used it should be coiled down on deck and left to dry before stowing below. Never stow a wet cable below if you can possibly help it as the heat will make it rot and deteriorate very quickly.

If you have a fish davit forward, and tackle to fish and cat the anchor, as is the case on most boats over 50 feet in length where the anchor may weigh over 80 pounds, the davit must be swung out, the tackle overhauled, and the fish hook caught under one of the flukes, or through the balance link which is often placed in the center of the shank (especially in stockless anchors) and which will keep the anchor fairly balanced while hoisting in; then the anchor can be hoisted on deck easily by one man.

After the anchor is on deck stow it in the chocks usually provided for that purpose and lash it fast with the shank painter. There should usually be two eye bolts in the deck to which the shank painter is spliced so that when it is passed around the anchor and set up there is no chance of the anchor's working loose. Then overhaul your fish tackle until you get "two blocks" on it, coil down the fall, set up the davit guys and clear up forward.

A chain cable is always made fast to an anchor by a shackle and pin, but with a hemp cable use a fisherman's bend, with two round turns around the shackle in the shank of the anchor and the end passed under both turns and then seized to the standing part, or a half hitch put in. Then it will not jam and can be easily cast off.

For a closing word I need only say, in buying your ground tackle get the best, get it heavy enough and get enough of it. Skimp the gold stripe and the easy chairs if need be, but remember that the safety of your craft may often depend on 70 pounds of iron and a few strands of manila, and these want to be of the best.

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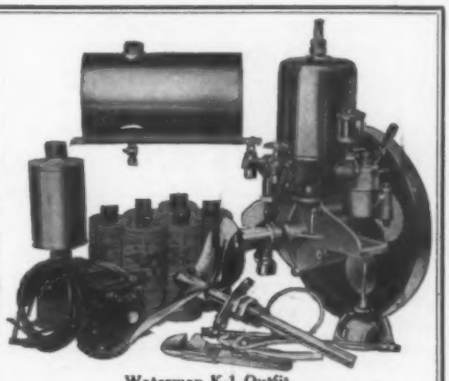

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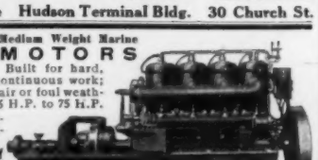

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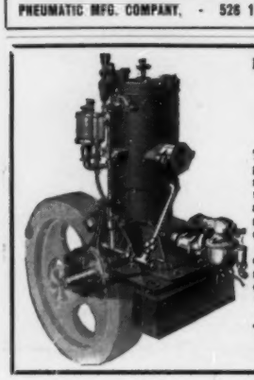

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(Continued from page 360)

and Elena just cleared us. The wind being a little more westerly under shore we tacked to starboard when close into Narragansett Pier and met Westward and Elena standing in again; they crossed us by about the same distance.

The Irolita was now a quarter of a mile astern of us on the starboard tack just to windward of our wake. Elena and Westward tacked again when close to shore and were now on our weather quarter and while they seemed to work out a little, we were footing faster. The Irolita was coming up on us slowly. All held to the starboard tack until we opened out by the point and were nearly off the whistling buoy.

When the Irolita, which had now come up quite close to us, but not far enough to windward to get by (if she had the foot) tacked to port, the Westward and Elena crossed her and both went about on her weather. Now, the tide was just beginning to set east under the Rhode Island shore, but off shore there was still a strong west tide and we were lee bowing it and could not understand why the others should all go west against the tide, and with a chance of having less wind as the ebb tide got stronger. We had figured this out on the way down and had no idea of going west this day, as we were about an hour and fifty minutes earlier at this point than the day before. The wind was stronger with us now and we had trouble in making our lug foresail stand. The lug sheet was 3-inch Russia hemp and new, but we pulled it in two. This may sound foolish, but our theory was that it was better to pull the sail down and make it stand, or part all the sheet we had.

We stood well off shore heading south, the wind being steady from S.W. but a little stronger at times. When about half way to Block Island we tacked to the west until we were close up to the rip which divided the east and west tides, and then tacked off keeping in the west-going tide. The others were still standing west and apparently having less wind than we, as when we stood west and came up to the tide rip the wind would lighten up. We had trouble with our jibtopsail and twice the sheet unhooked and we took it in for a while, both times.

We made good time and came down to the buoy and turned in fine shape, breaking out balloon maintopmast staysail. The others were far astern and the race was already won unless we did something foolish or carried away something.

When we turned the east mark and headed for home we took in our balloons and set our small maintopmast staysail and No. 1 jib topsail and carried them to the finish, while the others were changing several times on the run in. We changed our men about and found that she steered better on this course with all aft on the quarter. She made a great sail, making the best time of all on this leg, and winning the best race ever sailed for this cup. While it has been heralded about that the other boats let us go and were fighting each other, it looks and sounds strange when three boats go off on what is surely the slowest course. This is the opinion of all who know the tides in that section. But the real reason they all went west is this: They were looking for what we got the day before, and it was not there. It was another day and the tide was different. It was the surprise of the season and Enchantress won because she was a good boat and was well sailed and went to Block Island the only way to go on such a day—if you are in a hurry to get there.

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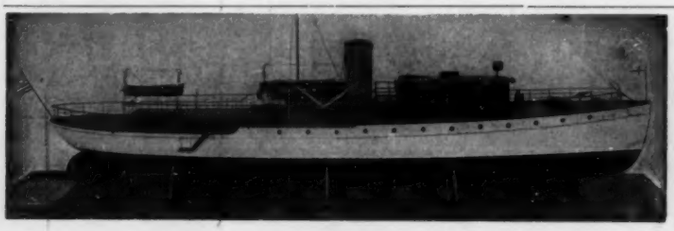

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INVENTIONS DEVELOPED · PATTERN MAKING
SPECIAL MACHINERY DESIGNED AND BUILT

The Log of The Adventuress

(Continued from page 349)

the following morning and found a stunning little island covered with a hardy growth of tall trees. The water near the shore was black with schools of large fish. These we tried vainly to shoot with a shotgun, and afterwards learned that they were poisonous on account of the lime they eat. We then turned our attention to shooting a curious kind of black duck with a curved bill, that we saw perching on trees near the water. The island is about a mile in circumference, and one boat started around in one direction and one in the other, and thus drove all the birds together, so that we brought down several. The natives along the coast do not eat these birds, but the steward succeeded in making a very delicious stew of them.

In the afternoon we got a pilot from a fisherman, who agreed to take us through the channel for twenty-five dollars. As soon as we all got back to the yacht, we started through under power, in a flat calm. Rocks were visible on both sides under the water. At sundown we came to anchor, the pilot returning aboard his boat which had been following along after us. We passed through an even more dangerous passage the next morning, but got through all right and dropped the pilot when we reached Cazones Bay. A strong current sets in here, and we were obliged to use the power again to keep off the reefs, as there was no wind. Later, a light breeze came up and we were off Piedras Key at sundown. The wind held very light, but we could not use the engine as the gasolene was all but gone. So was the water, and there were no fresh supplies on board, so we were on rather short rations.

When morning came we were not more than 10 miles to the westward of Cienfuegos, but there was no wind and a current was setting us toward the shore. We started the engine and ran at short intervals on the gasolene that ran down into the supply pipe when she rolled. About noon we got a fresh, favorable breeze, which carried us in the narrow cut by the old Spanish fort, with the picturesque mountains in the distance on the right. The channel opens out into a large beautiful bay, on which is situated the picturesque little town of Cienfuegos. It is so full of color that it makes one think at once of Havana. Along the shore are little cottages, each with its small summer house overhanging the water. On going ashore, however, everyone felt disappointed in the place. It proved to be dirty, dusty, and down at the heel. The supplies here were bought through a ship chandler, and they charged outrageous prices. The gasolene is sold in tins of five gallons each, and cost 58 cents a gallon. We spent a day here making ready for sea again. It was late the next afternoon when we dropped down the bay to a quiet little cove just inside the point called Punta de Pascaballos, where stands an old Spanish fort.

(To be continued)

Winners of the Inland Lake Regatta

Owing to an error in the October issue the winners of the Regatta of the Inland Lake Yachting Ass'n at Lake Oconomowoc in August were not given.

In Class A, the Wax Wing captured the championship, the Commodore Schmidt Cup and the Clark-Ordway Cup. Marion Jean took second place and Handy Andy V won the Valentine Challenge Cup.

The Class B championship was won by Little Miss Fix-It with Phryne second.

In Class C, Swallow won the championship and the Warren and Bray Cups, and second place went to Apache.

¶ Something *new* under the sporting sun. An American hunter has proved that American dogs are a match for the *King of Beasts*.

¶ PAUL J. RAINEY has been hunting lions with fox-hounds, and dogs and man have set new records for the sporting chance. The dogs follow the trail and bay the game with all the sureness and courage that they showed against Southern foxes and bears in the Mississippi canebrakes.

¶ To be sure there were narrow escapes. Occasionally dogs were mauled and one charging lioness was stopped *six feet from the camera*.

¶ It is a story of nerve, ingenuity, persistence, both canine and human. Mr. Rainey tells it in the NOVEMBER OUTING with photographs of the men, the country, the dogs and the game.

¶ In addition to this *feature*, this *big* issue of OUTING sets the pace for 1912 with a wonderful variety of outdoor articles from MONOPLANES VS. BIPLANES by Augustus Post to RIFLES AND AMMUNITION by Horace Kephart; from THE RANCH by Stewart Edward White to A MODEL APPLE ORCHARD by E. P. Powell---everything for the needs of the outdoor American.

¶ Let OUTING be your guide for the things worth while in outdoor living---include it in your list of magazines $2.50---Regular subscription price $3.00. All news-stands 25 cents.

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OUTING MAGAZINE Yachting OUTING HANDBOOKS

315 FIFTH AVENUE NEW YORK CITY·1112 PEOPLES GAS BLDG., CHICAGO

The Schooner Union's Log-Book

(Continued from page 358)

Remarks on bord, Sunday May 31.

This day begins with light gales and clear weather. At 8 A. M. Gibrealtor bore N.N.E. Distance 4 Leagues. At 9 A. M. was hove to by a Portuguese Brig and spoken with but not boarded. Winged out our fore sail the wind being direct aft. Latter part fresh gales and clear. Passed a fleet of English transports of about 40 sail at the mouth of the gut Beating up.

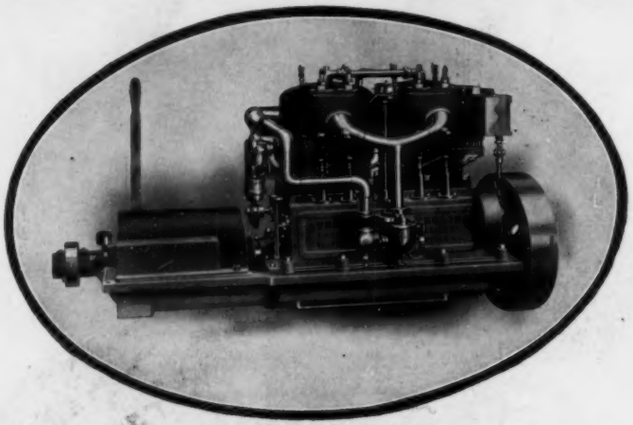
Remarks on bord, Monday June the 1st 1807.

This 24 hours Begins with fresh gales and clear wether. At 2 P. M. Cape Spartel, in the Latt. 35° 48′ N. Long. 5-47 W. bore S.B.E. Distance 7 Leagues, from which I take my departure, being bound to Plymouth with Gods Permission. At 4 P. M. spoke the Schr. Betsey Capt. Powzlin of Beverly from Mersailles, out 19 days. Informed us that 3 days before he had spoke the Schr. Lucy, Capt. Cotton of Plym So ends this day all well or bord.

Remarks on bord, June the 17th, 1807

This day begins with fresh gales and flying clowds. At 6 P. M. the East end of the Island St. Michals Bore S.W. Distance 6 Leagues. from which I renew my departure, being two Degrees nearly a head of my reckoning. Middle and Latter part fresh gales and thick fog. Saw a brig standing to the Westward. At 8 A M tacked ship, stood to the West.

Course N. 13 E. Dist. 51 Dif. latt. 49. Dep. 11. Latt by D. R. 38-36 Latt by Obs—Dif. Long 14 Long. in 25-34 Mer. Dist. (true distance from St. Mich. 11 miles.)



18-25, 25-40, 30-45 H.P.

We show here the Model B, 4-cylinder engine built in sizes stated above. This type is also built in 6 cylinders, 35-55-h.p. and 45-65-h.p., and in 8 cylinders, 130-h.p. Rated power of this group of engines is developed at from 600 to 1,000 r.p.m.

If you are considering power for a cruiser, runabout or speed boat, don't decide on an engine until you find out something about the good qualities of the Sterling. Some of the most successful boats afloat are equipped with Sterling engines, and we will send you a list of users of any of our sizes and types if you are interested.

Other sizes are 8-10, 12-15, 20, 40, 60-h.p. for heavy-duty service and are suitable for cruisers and work boats.

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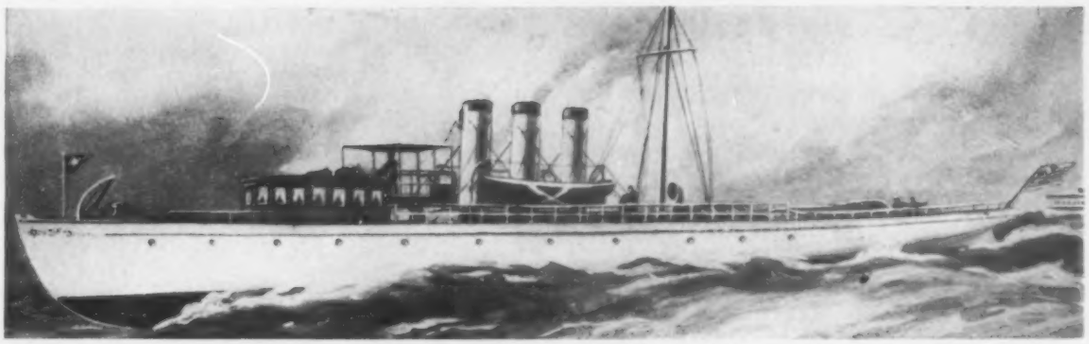
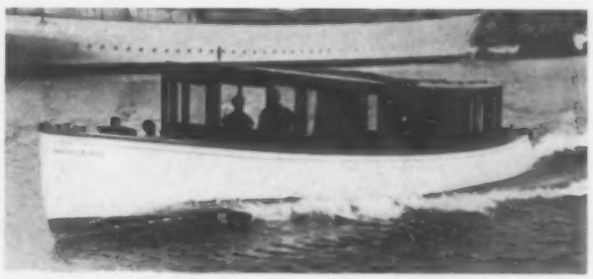
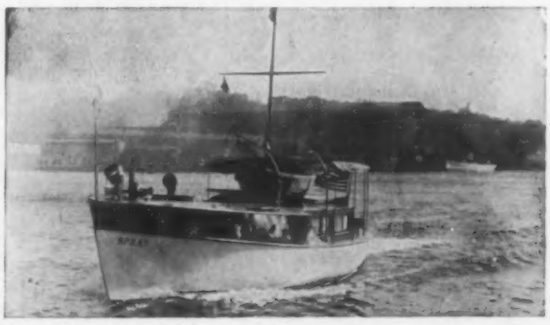


Finest and fastest Express Steam Yacht now available. Length over all 137 ft. Designed and built by us in 1909. Equipped with two "Seabury" triple expansion engines and "Seabury" water tube boilers fully found; fine order throughout. Speed guaranteed 30 miles per hour.

Motor boat, "raised deck type," 55 ft. long, built by Matthews Boat Co. in 1910; has toilet, galley, cabin and motor room; extra large cockpit; equipped with 6-cylinder, 6¾ in. x 8 in. "Speedway" gasoline engine (Special) 125-H.P.; arranged for one-man control; electric lights; fully found; speed 17 to 18 miles per hour; a very attractive boat; specially adapted for day service.



Forty-nine-foot Cabin Day Boat. Arranged for one-man control. Designed and built by us in 1907. Has had excellent care and is in first-class condition. Equipped with 6-cylinder 6x6—50-60-H.P. Speedway gasolene engine. Speed guaranteed 14 miles per hour. Must be seen to be appreciated. Looks like new.



Raised deck cruiser, 44 ft. over all, 38 ft. waterline, 9 ft. 6 in. beam, 3 ft. draught. Designed and built by us in 1910. Steersman's platform on starboard side, with controls to motor on steering wheel; reverse lever located at this point. Cockpit left open for chairs; thwart seat at after end of cockpit. Awning and side curtains for cockpit. Boat is lighted with acetylene gas, Commercial Co. system. Machinery: Machinery consists of a 4-cylinder, 4-cycle, 6x6-in. Speedway gasoline marine engine, 32-40-H.P. Copper fuel tank, 200 gals. capacity. Speed of the boat is between 10 and 11 miles per hour. Is an elegant sea boat, having been used all summer in vicinity of Block Island. This is without question the best raised deck cruiser of the size that is available, and is only offered as owner is contemplating having a larger "Speedway" boat built. Must be seen to be appreciated. Fully equipped.

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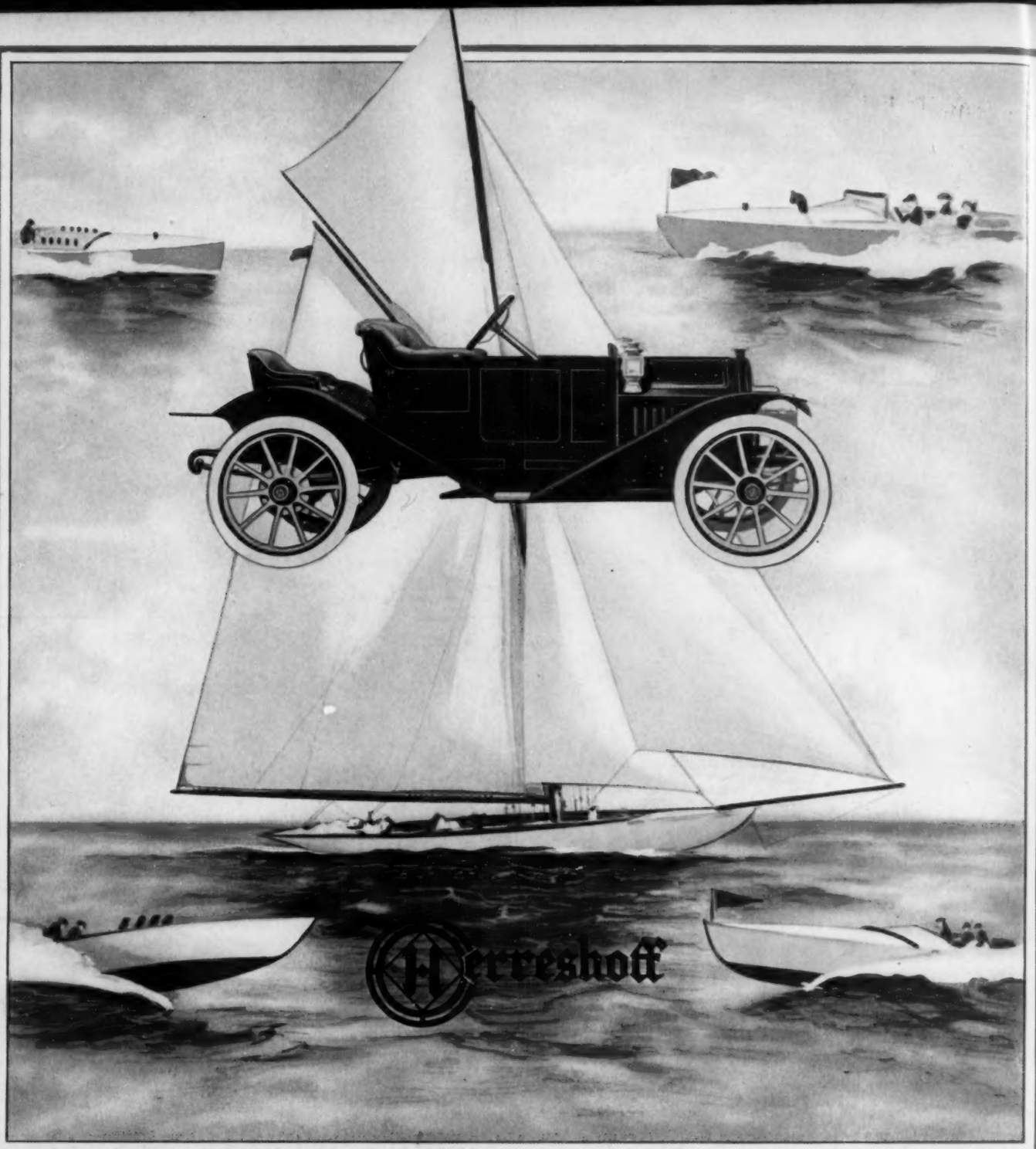

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